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THE PEOPLE'S

COMMON SENSE

MEDICAL ADVISER

IN PLAIN ENGLISH;

OR,

MEDICINE SIMPLIFIED.

BY

R. V. PIERCE, M. D.,

ONE OF THE STAFF OF CONSULTING PHYSICIANS AND SURGEONS, AT THE INVALIDS' HOTEL AND SURGICAL INSTITUTE, AND PRESIDENT OF THE WORLD'S DISPENSARY MEDICAL ASSOCIATION.

THIRTY-THIRD EDITION.

815th THOUSAND.

Carefully Revised by the Author, assisted by his full Staff of Associate Specialists in Medicine and Surgery, the Faculty of the Invalids' Hotel and Surgical Institute.

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THIS WORK.

PREFACE TO THE PRESENT EDITION.

The popular favor with which former editions of this work have been received has required the production of such a vast number of copies, that the original electrotype plates from which it has heretofore been printed, have been completely worn out.

The book has been re-produced in London, England, where six editions have already been necessary to supply the demand for it.

In order to continue its publication to meet the demand which is still active in this country, it has been necessary, inasmuch as the original electrotype plates have become worn and useless, to re-set the work throughout. This has afforded the Author an opportunity to carefully revise the book and re-write many portions, that it may embody the latest discoveries and improvements in medicine and surgery. In performing this labor he has been greatly assisted by contributions and valuable aid kindly supplied by his staff of associate specialists in medicine and surgery who constitute the Faculty of the Invalids' Hotel and Surgical Institute.

That part of the book treating of Diseases and Their Remedies will be found to be thoroughly reliable; the prescriptions recommended therein having all received the sanction and endorsement of medical gentlemen of rare professional attainments and mature experience.

THE AUTHOR.

BUFFALO, N. Y., January, 1895

PREFACE TO THE FIRST EDITION.

Every family needs a COMMON SENSE MEDICAL ADVISER. The frequent inquiries from his numerous patients throughout the land, suggested to the Author the importance and popular demand for a reliable work of this kind. Consequently, he has been induced to prepare and publish an extensive dissertation on Physiology, Hygiene, Temperaments, Diseases and Domestic Remedies. It is for the interest and welfare of *every* person, not only to understand the means for the preservation of health, but also to know what remedies should be employed for the alleviation of the common ailments of life.

The frequency of accidents of all kinds, injuries sustained by machinery, contusions, drowning, poisoning, fainting, etc., and also of sudden attacks of painful diseases, such as headache, affections of the heart and nerves, inflammation of the eye, ear and other organs, renders it necessary that non-professionals should possess sufficient knowledge to enable them to employ the proper means for speedy relief. To impart this important information is the aim of the author.

Moreover, this volume treats of Human Temperaments, not only of their influence upon mental characteristics and bodily susceptibilities, but also of their vital and non-vital combinations, which transmit to the offspring either health, hardihood, and longevity, or feebleness, disease, and death. It clearly points out those temperaments which are compatible with each other and harmoniously blend, and also those which, when united in marriage, result in barrenness, or produce in the offspring imbecility, deformity, and idiocy. These matters are freely discussed from original investigations and clinical observations, thus rendering the work a true and scientific guide to marriage.

While instruction is imparted for the care of the body, those diseases (alas how prevalent!) are investigated which are sure to follow as a consequence of certain abuses, usually committed through ignorance. That these ills do exist is evident from the fact that the Author is consulted by multitudes of unfortunate young men and women, who are desirous of procuring relief from the weaknesses and derangements incurred by having unwittingly violated physiological laws.

Although some of these subjects may seem out of place in a work designed for *every* member of the family, yet they are presented in a style which cannot offend the most fastidious, and with a studied avoidance of all language that can possibly displease the chaste, or disturb the delicate susceptibilities of persons of either sex.

This book should not be excluded from the young, for it is eminently adapted to their wants, and imparts information without which millions will suffer untold misery. It is a *false* modesty which debars the youth of our land from obtaining such information.

As its title indicates, the Author aims to make this book a useful and practical Medical Adviser. He proposes to express himself in plain and simple language, and, so far as possible, to avoid the employment of technical words, so that all his readers may readily comprehend the work, and profit by its perusal. Written as it is amid the many cares attendant upon a practice embracing the treatment of thousands of cases annually, and therefore containing the fruits of a rich and varied experience, some excuse exists for any literary imperfections which the critical reader may observe.

THE AUTHOR.

BUFFALO, N. Y., July, 1875.

INTRODUCTORY WORDS.

Health and disease are physical conditions upon which pleasure and pain, success and failure, depend. Every *individual* gain increases public gain. Upon the health of its people is based the prosperity of a nation; by it every value is increased, every joy enhanced. Life is incomplete without the enjoyment of healthy organs and faculties, for these give rise to the delightful sensations of existence. Health is essential to the accomplishment of every purpose; while sickness thwarts the best intentions and loftiest aims. We are continually deciding upon those conditions which are either the source of joy and happiness or which occasion pain and disease. Prudence requires that we should meet the foes and obviate the dangers which threaten us, by turning all our philosophy, science, and art, into practical *common sense.*

The profession of medicine is no *sinecure;* its labors are constant, its toils unremitting, its cares unceasing. The physician is expected to meet the grim monster, "break the jaws of death, and pluck the spoil out of his teeth." *His* ear is ever attentive to entreaty, and within his faithful breast are concealed the disclosures of the suffering. Success may elate him, as conquest flushes the victor. Honors are lavished upon the brave soldiers who, in the struggle with the foe, have covered themselves with glory, and returned victorious from the field of battle; but how much more brilliant is the achievement of those who overwhelm disease, that common enemy of mankind, whose victims are numbered by millions! Is it meritorious in the physician to modestly veil his discoveries, regardless of their importance? If he have light, why hide it from the world? Truth should be made as universal and health-giving as sunlight. We say, give light to all who are in darkness, and a remedy to the afflicted everywhere.

We, as a people, are becoming idle, living in luxury and ease, and in the gratification of artificial wants. Some indulge in the

use of food rendered unwholesome by bad cookery, and think more of gratifying a morbid appetite than of supplying the body with proper nourishment. Others devote unnecessary attention to the display of dress and a genteel figure, yielding themselves completely to the sway of fashion. Such intemperance in diet and dress manifests itself in the general appearance of the unfortunate transgressor, and exposes his folly to the world, with little less precision than certain vices signify their presence by a tobacco-tainted breath, beer-bloated body, rum-emblazoned nose, and kindred manifestations. They coddle themselves instead of practicing self-denial, and appear to think that the chief end of life is gratification, rather than useful endeavor.

I purpose to express myself candidly and earnestly on all topics relating to health, and appeal to the common sense of the reader for justification. Although it is my aim to simplify the work, and render it a practical common-sense guide to the farmer, mechanic, mariner, and day-laborer, yet I trust that it may not prove less acceptable to the scholar, in its discussion of the problems of Life. Not only does the method adopted in this volume of treating of the Functions of the Brain and Nervous System present many new suggestions, in its application to hygiene, the management of disease, generation and the development and improvement of man, but the conclusions correspond with the results of the latest investigations of the world's most distinguished *savants*. My object is to inculcate the facts of science rather than the theories of philosophy.

Unto us are committed important health trusts, which we hold, not merely in our own behalf, but for the benefit of others. If we discharge the obligations of our trusteeship, we shall enjoy present strength, usefulness, and length of days; but if we fail in their performance, then inefficiency, incapacity, and sickness, will follow, the sequel of which is pain and death. Let us, then, prove worthy of this generous commission, that we may enjoy the sweetest of all pleasures, the delicious fruitage of honest toil and faithful obedience.

PART I.

PHYSIOLOGY.

CHAPTER I.

BIOLOGY.

In this chapter we propose to consider Life in its primitive manifestations. *Biology* is the science of living bodies, or the science of life. Every organ of a living body has a function to perform, and *Physiology* treats of these functions.

Function means the peculiar action of some particular organ or part. There can be no vital action without change, and no change without organs. Every living thing has a structure, and *Anatomy* treats of the structures of organized bodies. Several chapters of this work are devoted to *Physiological Anatomy*, which treats of the human organism and its functions.

The beginning of life is called *generation;* its perpetuation, *reproduction.* By the former function, individual life is insured; by the latter, it is maintained. Since nutrition sustains life, it has been pertinently termed *perpetual reproduction.*

Latent Life is contained in a small globule, a mere atom of matter, in the sperm-cell. This element is something which, under certain conditions, develops into a living organism. The entire realm of nature teems with these interesting phenomena, thus manifesting that admirable adjustment of internal to external relations, which claims our profound attention. We

are simply humble scholars, waiting on the threshold of nature's glorious sanctuary, to receive the interpretation of her divine mysteries.

Some have conjectured that chemical and physical forces account for all the phenomena of life, and that organization is not the result of vital forces. Physical science cannot inform us what the beginning was, or how vitality is the result of chemical forces; nor can it tell us what transmutations will occur at the end of organized existence. This mysterious life-principle eludes the grasp of the profoundest scientists, and its presence in the world will ever continue to be an astonishing and indubitable testimony of Divine Power.

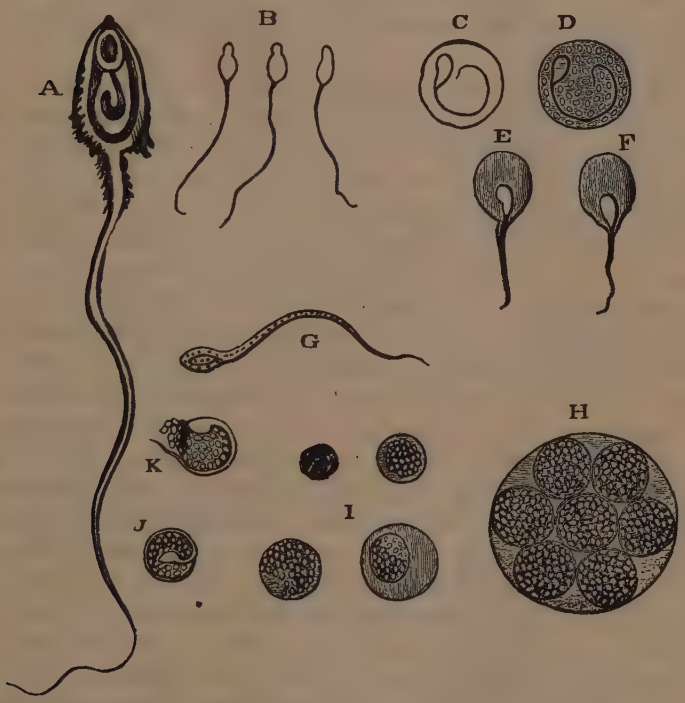
The physical act of generation is accomplished by the union of two cells; and as this conjugation is known to be so generally indispensable to the organization of life, we may fairly infer that it is a universal necessity. Investigations with the microscope have destroyed the hypothesis of "spontaneous generation." These show us that even the minutest living forms are derived from a parent organization.

Generation. So long as the vital principle remains in the sperm-cell, it lies dormant. That part of the cell which contains this principle is called the *spermatozoön*, which consists of a flattened body, having a long appendage tapering to the finest point. If it be remembered that a line is the one-twelfth part of an inch in length, some idea may be formed of the extreme minuteness of the body of a human spermatozoön, when we state that it is from $\frac{1}{800}$ to $\frac{1}{600}$ part of a line, and the filiform tail $\frac{1}{500}$ of a line, in length. This life-atom, which can be discerned only with a powerful magnifying glass, is perfectly transparent, and moves about by executing a vibratile motion with its long appendage. Within this speck of matter are hidden the multifarious forces which, under certain favorable conditions, result in organization. Magnify this infinitesimal atom a thousand times, and no congeries of formative powers is perceived wherewith to work out the wonders of its existence. Yet it contains the principle, which is the contribution on the part of the male toward the generation of a new being.

The *ovum*, or germ-cell, is the special contribution on the

part of the female for the production of another being. The human ovum, though larger than the spermatozoön, is also extremely small, measuring not more than from $\frac{1}{250}$ to $\frac{1}{170}$ of a line, or from $\frac{1}{2410}$ to $\frac{1}{1720}$ of an inch, in diameter.

Fig. 1.



A. Human Spermatozoön magnified about 3,800 diameters.
B. Vertical and lateral views of spermatozoa of man.
C, *D*, *E*, *F*. Development of spermatozoa within the vesicles of evolution.
G. Cell of the sponge resembling a spermatozoön.
H. Vesicles of evolution from the seminal fluid of the dog in the parent cell.
I. Single vesicles of different sizes.
J. Human spermatozoön forming in its cell.
K. Rupture of the cell and escape of the spermatozoön.

The sperm and the germ-cells contain the primary elements of all organic structures, and both possess the special qualities and conditions by which they may evolve organic beings. Every cell is composed of minute grains, within which vital action takes

place. The interior of a cell consists of growing matter; the exterior, of matter which has assumed its form and is less active.

When the vital principle is communicated to it, the cell undergoes a rapid transformation. While this alteration takes place within the cell, deteriorating changes occur in the cell-wall. Although vital operations build up these structures, yet the animal and nervous functions are continually disintegrating, or wasting, them.

Throughout the animal kingdom, germ-cells present the same external aspect when carefully examined with the microscope. No difference can be observed between the cells of the flowers of the oak and those of the apple, but the cells of the one always produce oak trees, while those of the other always produce apple trees. The same is true of the germs of animals, there being not the slightest apparent difference. We are unable to perceive how one cell should give origin to a dog, while another exactly like it becomes a man. For aught we know, the ultimate atoms of these cells are identical in physical character; at least we have no means of detecting any difference.

Species. The term species is generally used merely as a convenient name to designate certain assemblages of individuals having various striking points of resemblance. Scientific writers, as a rule, no longer hold that what are usually called *species* are constantly unvarying and unchangeable quantities. Recent researches point to the conclusion that *all species vary more or less*, and, in some instances, that the variation is so great that the limits of general specific distinctness are sometimes exceeded.

Our space will not permit us to do more than merely indicate the two great fundamental ideas upon which the leading theories of the time respecting the origin of species are based. These are usually termed the doctrine of *Special Creation* and the doctrine of *Evolution.* According to the doctrine of Special Creation, it is thought that species are practically immutable productions, each species having a *specific centre* where it was originally created, and from which it spread over a certain area until its further progress was obstructed by unfavorable conditions. The advocates of the doctrine of Evolution hold, on the contrary, that species are not permanent and immutable, but that they are subject to modification, and that "the existing forms of life are

descendants by true generation of pre-existing forms."* Most naturalists are now inclined to admit the general truth of the theory of evolution, but they differ widely respecting the mode in which it occurred.

THE PROCESS OF GENERATION.

The vital *principle*, represented in the *sperm*-cell by a spermatozoön, must be imparted to a *germ*-cell in order to effect impregnation. After touching each other, separate them immediately, and observe the result. If, with the aid of a powerful lens, we directly examine the spermatozoön, it will be perceived that, for a short time, it preserves its dimensions and retains all its material aspects. But it does not long withstand the siege of decay, and, having fulfilled its destiny, loses its organic characteristics, and begins to shrink.

If we examine the fertilized germ, we discover unusual activity, the result of impregnation. Organic processes succeed one another with wonderful regularity, as if wrought out by inexplicable intelligence. Here begin the functions which constitute human physiology.

Generation requires that a spermatozoön be brought into actual contact with a germ that fecundation may follow. If a spermatic cell, or spermatozoön, together with several unimpregnated ova, no matter how near to one another, if not actually touching, be placed on the concave surface of a watch-crystal, and covered with another crystal, keeping them warm, and even though the vapor of the ova envelops it, no impregnation will occur. Place the spermatozoön in contact with an ovum, and impregnation is instantly and perfectly accomplished. Should this vitalizing power be termed nerve-force, electricity, heat, or motion? It is known that these forces may be metamorphosed; for instance, nervous force may be converted into electricity, electricity into heat, and heat into motion, thus illustrating their affiliation and capability of transformation. But nothing is explained respecting the real nature of the vital principle, if we assert its identity with any of these forces; for who can reveal the true nature of any of these, or even of matter?

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* Darwin.

ALTERNATE GENERATION.

In several insect families, the species is not wholly represented in the adult individuals of both sexes, or in their development, but, to complete this series, supplementary individuals, as it were, of one or of several preceding generations, are required. The son may not resemble the father, but the grandfather, and in some instances, the likeness re-appears only in latter generations. Agassiz states: "Alternate generation was first observed among the Salpæ. These are marine mollusks, without shells, belonging to the family Tunicata. They are distinguished by the curious peculiarity of being united together in considerable numbers so as to form long chains, which float in the sea, the mouth (*m*) however being free in each.

Fig. 2. *Fig. 3.*

"Fig. 2. The individuals thus joined in floating colonies produce eggs; but in each animal there is generally but one egg formed, which is developed in the body of the parent, and from which is hatched a little mollusk.

"Fig. 3, which remains solitary, and differs in many respects from the parent. This little animal, on the other hand, does not produce eggs, but propagates, by a kind of budding, which gives rise to chains already seen in the body of their parent (*a*), and these again bring forth solitary individuals, etc."

It therefore follows that generation in some animals requires two different bodies with intermdiate ones, by means of which, and their different modes of reproduction, a return to the original stock is effected.

Universality of Animalcular Life.—Living organisms are universally diffused over every part of the globe. The gentle zephyr wafts from flower to flower invisible, fructifying atoms, which quicken beauty and fragrance, giving the promise of a golden fruitage, to gladden and nourish a dependent world. Nature's own sweet cunning invests all living things,

constraining into her service chemical affinities, arranging the elements and disposing them for her own benefit, in such numberless ways that we involuntarily exclaim,

"The course of Nature is the art of God."

The microscope reveals the fact that matter measuring only $\frac{1}{120000}$ of an inch in diameter may be endowed with vitality, and that countless numbers of animalcules often inhabit a single drop of stagnant water. These monads do not vary in form, whether in motion or at rest. The life of one, even, is an inexplicable mystery to the philosopher. Ehrenberg writes: "Not only in the polar regions is there an uninterrupted development of active microscopic life, where larger animals cannot exist, but we find that those minute beings collected in the Antarctic expedition of Captain James Ross exhibit a remarkable abundance of unknown, and often most beautiful forms."

Even the interior of animal bodies is inhabited by animalcules. They have been found in the blood of the frog and the salmon, and in the optic fluid of fishes. Organic beings are found in the interior of the earth, into which the industry of the miner has made extensive excavations, sunk deep shafts, and thus revealed their forms; likewise, the smallest fossil organisms form subterranean strata many fathoms deep. Not only do lakes and inland seas abound with life, but also, from unknown depths, in volcanic districts, arise thermal springs which contain living insects. Were we endowed with a microscopic eye, we might see myriads of ethereal voyagers wafted by on every breeze, as we now behold drifting clouds of aqueous vapor. While the continents of earth furnishes evidences of the universality of organic beings, recent observations prove that "animal life predominates amid the eternal night of the depths of the liquid ocean."

THE ORIGIN OF LIFE.

The ancients, rude in many of their ideas, referred the origin of life to divine determination. The thought was crudely expressed, but well represented, in the following verse:

"Then God smites his hands together,
And strikes out a soul as a spark,
Into the organized glory of things,
From the deeps of the dark."

According to a Greek myth, Prometheus formed a human image from the dust of the ground, and then, by fire stolen from heaven, animated it with a living soul. Spontaneous generation once held its sway, and now the idea of natural evolution is popular. Some believe that the inpenetrable mystery of life is evolved from the endowments of nature, and build their imperfect theory on observations of her concrete forms and their manifestations, to which all our investigations are restricted. But every function indicates purpose, every organism evinces intelligent design, and *all* proclaim a Divine Power. Something cannot come out of nothing. With reason and philosophy, *chance* is an impossibility. We, therefore, accept the display of wisdom in nature as indicative of the designs of God. Thus "has He written His claims for our profoundest admiration and homage all over every object that He has made." If you ask: Is there any advantage in considering the phenomena of nature as the result of DIVINE VOLITION? we answer, that this belief corresponds with the universally acknowledged ideas of accountability; for, with a wise and efficient Cause, we infer there is an intelligent creation, and the desire to communicate, guide and bless, is responded to by man, who loves, obeys, and enjoys. Nothing is gained by attributing to nature vicegerent forces. Is it not preferable to say that she responds to intelligent, loving Omnipotence? Our finiteness is illustrated by our initiation into organized being. Emerging from a rayless atom, too diminutive for the sight, we gradually develop and advance to the maturity of those *conscious powers*, the exercise of which furnishes indubitable evidence of our immortality. We are pervaded with invisible influences, which, like the needle of the compass trembling on its pivot, point us to immortality as our ultimate goal, where in the sunny clime of Love, even in a spiritual realm of joy and happiness, we may eternally reign with Him who is all in all.

CHAPTER II.

PHYSIOLOGICAL ANATOMY.

THE BONES.

All living bodies are made up of tissues. There is no part, no organ, however soft and yielding, or hard and resisting, which has not this peculiarity of structure. The *bones* of animals, as well as their flesh and fat, are composed of tissues, and all alike made up of cells. When viewed under a microscope, each cell is seen to consist of three distinct parts, a *nucleolus*, or dark spot, in the center of the cell, around which lies a mass of granules, called the *nucleus;* and this, in turn, is surrounded with a delicate, transparent membrane, termed the *envelope.* Each of the granules composing the nucleus assimilates nourishment, thereby growing into an independent cell, which possesses a triple organization similar to that of its parent, and in like manner reproduces other cells.

Fig. 4.

Nucleated cell. From Goeber. *1.* Periphery of the cell, or cell-wall. *2.* Nucleus. *3.* Nucleolus in the center.

A variety of tissues enters into the composition of an animal structure, yet their differences are not always distinctly marked, since the characteristics of some are not unlike those of others. We shall notice, however, only the more important of the tissues.

The *Areolar*, or *Connective Tissue*, is a complete network of delicate fibers, spread over the body, and serves to bind the various organs and parts together. The fibrous and serous tissues are modifications of the areolar.

The *Nervous Tissue* is of two kinds: The gray, which is pulpy and granulated, and the white fibrous tissue. The *Adipose Tissue* is an extremely thin membrane, composed of closed cells which contain fat. It is found principally just beneath the skin, giving it a smooth, plump appearance.

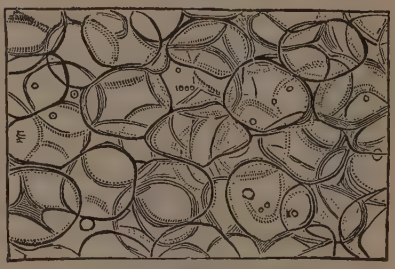
Fig. 5.

Arrangement of fibers in the Areolar Tissue. Magnified 135 diameters.

The *Cartilaginous Tissue* consists of nucleated cells, and, with the exception of bone, is the hardest part of the animal frame. The *Osseous Tissue*, or bone, is more compact and solid than the cartilaginous, for it contains a greater quantity of lime. The *Muscular Tissue* is composed of bundles of fibers, which are enclosed in a cellular membrane.

Various opinions have been entertained in regard to the formation, or growth, of bone. Some anatomists have supposed that all bone is formed in cartilage. But this is not true, for there is an *intra-membranous*, as well as an *intra-cartilaginous*, formation of bone, as may be seen in the development of the cranial bones, where the gradual calcification takes place upon the inner layers of the fibrous coverings. Intra-cartilaginous deposit is found in the vicinity of the blood-vessels, within the cartilaginous canals; also, there are certain points first observed in the shafts of long bones, called *centers of ossification*. These points are no sooner formed than the cartilage corpuscles arrange themselves in concentric zones, and, lying in contact with one another, become very compact. As ossification proceeds, the cup-shaped cavities are converted into closed interstices of bone, with extremely thin lamellæ, or layers. These, however, soon increase

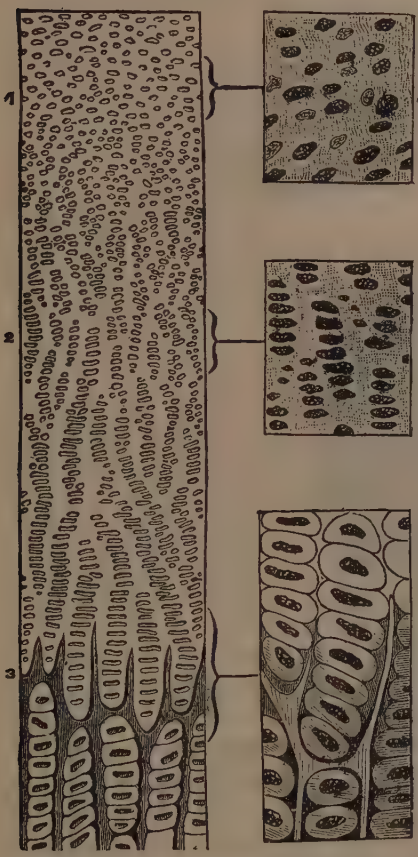
Fig. 6.



Human Adipose Tissue.

in density, and no blood-vessels can be observed within them.

Fig. 7.



Vertical section of cartilage near the surface of ossification. *1.* Ordinary appearance of the temporary cartilage. *1′.* Portion of the same more highly magnified. *2.* The cells beginning to form into concentric zones. *2′.* Portion more magnified. *3.* The ossification is extending in the intercellular spaces, and the rows of cells are seen resting in the cavities so formed, the nuclei being more separated than above. *3′.* Portion of the same more highly magnified.

The bony plates form the boundaries of the *Haversian*, or nutritive canals of the bones. In the *second stage of ossification*, the cartilage corpuscles are converted into bone. Becoming flattened against the osseous lamellæ already formed, they crowd upon one another so as to entirely obliterate the lines that distinguish them; and, simultaneously with these changes, a calcareous deposit takes place upon their interior. Bones grow by additions to their ends and surfaces. In the child, their extremities are

Fig. 8.

Thigh-bone, sawn open lengthwise.

Fig. 9.

Lower end of the thigh-bone sawn across, showing its central cavity.

separated from the body of the bone by a layer of cartilage, and the cancellated, or cellular structure, which remains for a time in the interior, represents the early condition of the ossifying substances.

The bones contain more earthy matter in their composition than any other part of the human body, being firm, hard, and of a lime color. They compose the skeleton or frame work, and, when united by natural ligaments, form what is known as the *natural* skeleton; when they are wired together, they are called an *artificial* skeleton. The number of bones in the human body is variously estimated; for those regarded as single by some anatomists are considered by others to consist of several distinct pieces. There are two hundred distinct bones in the human skeleton besides the teeth. These may be divided into those of the Head, Trunk, Upper Extremities, and Lower Extremities.

Fig. 10.

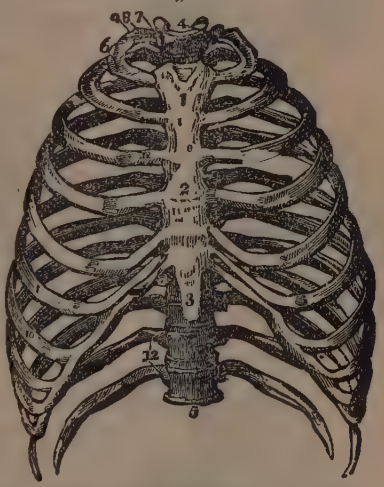
The bones of the skull separated. *1.* Frontal, only half is seen. *2.* Parietal. *3.* Occipital, only half is seen. *4.* Temporal. *5.* Nasal. *6.* Malar. *7.* Superior maxillary (upper jaw). *8.* Lachrymal. *9.* Inferior maxillary (lower jaw). Between *4* and *6* a part of the sphenoid or wedge-shaped bone, is seen. Another bone assisting to form the skull, but not here seen, is called the *ethmoid* (sieve-like, from being full of holes), and is situated between the sockets of the eyes, forming the roof of the nose.

The Bones of the Head are classed as follows: eight belonging to the Cranium, and fourteen to the Face.

The bones of the Cranium are the *occipital*, two *parietal*, two *temporal*, *frontal*, *sphenoid*, and *ethmoid*. Those composing the face are, the two *nasal*, two *superior maxillary*, two *lachrymal*, two *malar* two *palate*, two *inferior turbinated*, *vomer*, and *inferior maxillary*. The cranial bones are composed of two dense plates, between which there is, in most places, a cancellated or celluiar tissue. The external

plate is fibrous, the internal, compact and vitreous. The skull is nearly oval in form, convex externally, the bone being much thicker at the base than elsewhere, and it is, in every respect admirably adapted to resist any injury to which it may be exposed, thus affording ample protection to the brain substance which it envelops. The internal surface of the cranium presents eminences and depressions for lodging the convolutions of the brain, and numerous furrows for the ramifications of the blood-vessels. The bones of the cranium are united to one another by ragged edges called *sutures*, which are quite distinct in the child, but which in old age are nearly effaced. Some authorities suppose that by this arrangement the cranium is less liable to be fractured by blows; others think that the sutures allow the growth of these bones, which takes place by a gradual osseous enlargement at the margins. The bones of the *Face* are joined at the lower part and in front of the cranium, and serve for the attachment of powerful muscles which assist in the process of mastication. Although the soft parts of the face cover the bony structure, yet they do not conceal its principal features, or materially change its proportions. The form of the head and face presents some remarkable dissimilarities in different races.

Fig. 11.

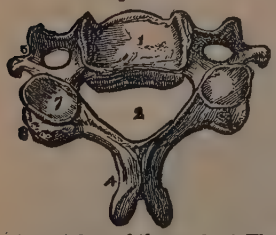


1. The first bone of the sternum (breast-bone). *2.* The second bone of the sternum. *3.* The cartilage of the sternum. *4.* The first dorsal vertebra (a bone of the spinal column). *5.* The last dorsal vertebra. *6.* The first rib. *7.* Its head. *8.* Its neck. *9.* Its tubercle. *10.* The seventh or last true rib. *11.* The cartilage of the third rib. *12.* The floating ribs.

The Trunk has fifty-four bones, which are as follows: The *Os Hyoides*, the *Sternum*, twenty-four Ribs, twenty-four *vertebræ* or bones of the Spinal Column, the *Sacrum*, the *Coccyx*, and two *Ossa Innominata*. The *Os Hyoides*, situated at the base of the tongue, is the most isolated bone of the skeleton, and serves for the attachment of

muscles. The *Sternum*, or breast-bone, in a child is composed of six pieces, in the adult of three, which in old age are consolidated into one bone. The *Ribs* are thin, curved bones, being convex externally. There are twelve on each side, and all are attached to the spinal column. The seven upper ribs, which are united in front of the sternum, are termed *true* ribs; the next three, which are not attached to the sternum, but to one another are called *false* ribs; and the last two, which are joined only to the vertebræ, are designated as *floating* ribs. The first rib is the shortest, and they increase in length as far as the eighth, after which this order is reversed.

Fig. 12.



A vertebra of the neck. *1.* The body of the vertebra. *2.* The spinal canal. *4.* The spinous process cleft at its extremity. *5.* The transverse process. *7.* The interior articular process. *8.* The superior articular process.

The *Spinal Column* or back-bone, when viewed from the front presents a perpendicular appearance, but a side view shows four distinct curves. The bones composing it are called *vertebræ*. The body part of a vertebra is light and spongy in texture, having seven projections called *processes*, four of which are the *articular* processes, which furnish surfaces to join the different vertebræ of the spinal column. Two are called *transverse*, and the remaining one is termed the *spinous*. The transverse

Fig. 13.

1. The cartilaginous substance which connects the bodies of the vertebræ. *2.* The body of the vertebra. *3.* The spinous process. *4, 4.* The transverse processes. *5, 5.* The articular processes. *6, 6.* A portion of the bony bridge which assists in forming the spinal canal (7).

Fig. 14.

Back-bone, spinal column, or vertebral column. All animals possessing such a row of bones are called *vertebrates*. Above *b* are the cervical (neck) vertebræ; *b* to *c*, dorsal (back) or chest vertebræ; *c* to *d*, lumbar (loins) vertebræ; *d* to *e*, sacrum; *e* to *f*, coccyx.

and spinous processes serve for the attachment of the muscles belonging to the back. All these processes are more compact than the body of the vertebra, and, when naturally connected, are so arranged as to form a tube which contains the *medulla spinalis*, or spinal cord. Between the vertebræ is a highly-elastic, cartilaginous and cushion-like substance, which freely admits of motion, and allows the spine to bend as occasion requires. The natural curvatures of the spinal column diminish the shock produced by falling, running or leaping, which would otherwise be more directly transmitted to the brain. The ribs at the sides, the sternum in front, and the twelve dorsal bones of the spinal column behind, bound the thoracic cavity, which contains the lungs, heart, and large blood-vessels.

The *Pelvis* is an open bony structure, consisting of the Os Innominata, one on either side, and the Sacrum and Coccyx behind. The *Sacrum*, during childhood, consists of five bones, which in later years unite to form one bone. It is light and spongy in texture, and the upper surface articulates with the lowest vertebra, while it is united at its inferior margin to the coccyx. The *Coccyx* is the terminal bone of the spinal column. In infancy it is cartilaginous and composed of several pieces, but in the adult these unite and form one bone. The *Innominata*, or nameless bones, during youth, consist of three separate pieces on each side; but as age advances they coalesce and form one bone. A deep socket, called the *acetabulum*, is found near their junction, which serves for the reception of the head of the thigh-bone.

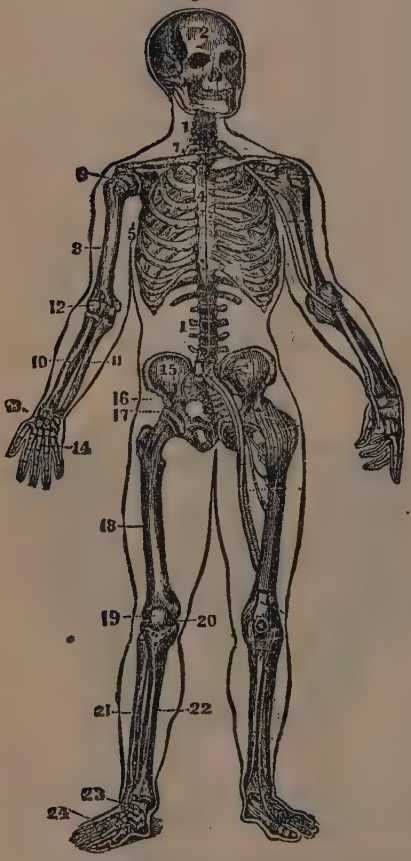
Fig. 15.

A representation of the pelvic bones. *e.* The lumbo-sacral joint. *2.* The sacrum. *3.* Coccyx. *1, 1.* The innominata. *4, 4.* Acetabula.

The Bones of the Upper Extremities are sixty four in number, and are classified as follows: The Scapula,

Clavicle, Humerus, Ulna, Radius, Carpus, Metacarpus, and Phalanges. The *Scapula*, or shoulder-blade, is an irregular, thin, triangular bone, situated at the posterior part of the shoulder, and attached to the upper and back part of the chest. The *Clavicle*, or collar-bone, is located at the upper part of the chest, between the sternum and scapula, and connects with both. Its form resembles that of the italic letter *f*, and it prevents the arms from sliding forward. The *Humerus*, the first bone of the arm, is long, cylindrical, and situated between the scapula and fore-arm. The *Ulna* is nearly parallel with the radius, and situated on the inner side of the fore-arm. It is the longer and larger of the two bones, and in its articulation with the humerus, forms a perfect hinge-joint. The *Radius*, so called from its resemblance to a spoke, is on the outer side of the fore-arm, and articulates with the bones of the wrist, forming a joint. The ulna and radius also articulate with each other at their extremities. The *Carpus*, or wrist, consists of eight bones, arranged in two rows. The *Metacarpus*, or palm of the hand, is composed of five bones,

Fig. 16.



1. 1. Portions of the back-bone. *2.* Cranial bones. *4.* Breast-bone. *5.* Ribs. *7.* Collar-bone. *8.* Arm-bone (humerus). *9.* Shoulder-joint. 10, 11. Bones of the fore-arm (ulna and radius). *12.* Elbow-joint. *13.* Wrist-joint. *14.* Bones of the hand. *15, 16.* Pelvic bones. *17.* Hip-joint. *18.* Femur. *19, 20.* Bones of the knee-joint. *21, 22.* Fibula and tibia. *23.* Ankle bone. *24.* Bones of the foot.

situated between the carpus and fingers. The *Phalanges*, fourteen in number, are the bones of the fingers and thumb, the fingers each having three and the thumb two.

The Bones of the Lower Extremities, sixty in number, are classed as follows: The Femur, Patella, Tibia, Fibula, Tarsus, Metatarsus, and Phalanges. The *Femur*, or thigh-bone, is the longest bone in the body. It has a large round head, which is received into the acetabulum, thus affording a good illustration of a ball and socket joint. The *Patella*, or knee-pan, is the most complicated articulation of the body. It is of a round form, connects with the tibia by means of a strong ligament, and serves to protect the front of the joint, and to increase the leverage of the muscles attached to it, by causing them to act at a greater angle. The *Tibia*, or shin bone, is enlarged at each extremity and articulates with the femur above and the astragalus, the upper bone of the tarsus, below. The *Fibula*, the small bone of the leg, is situated on the outer side of the tibia, and is firmly bound to it at each extremity. The *Tarsus*, or instep, is composed of seven bones, and corresponds to the carpus of the upper extremities. The *Metatarsus*, the middle of the foot, bears a close resemblance to the metacarpus, and consists of five bones situated between the tarsus and the phalanges. The tarsal and the metatarsal bones are so united as to give an arched appearance to the foot, thus imparting elasticity. The *Phalanges*, the toes, consist of fourteen bones, arranged in a manner similar to that of the fingers.

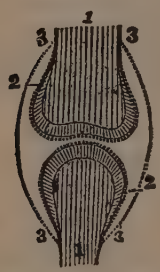
We are not less interested in tracing the formation of bone through its several stages, than in considering other parts of the human system. The formation of the Haversian canals for the passage of blood-vessels to nourish the bones, the earlier construction of bony tissue by a metamorphosis of cartilaginous substance, and also the commencement of ossification at distinct points, called *centers of ossification*, are all important subjects, requiring the student's careful attention. The bones are protected by an external membranous envelope, which, from its situation is called the *periosteum*. The bones are divided into four classes, *long*, *short*, *flat* and *irregular*, being thus adapted to subserve a variety of purposes.

The Long Bones are found in the limbs, where they act as

levers to sustain the body and aid in locomotion. Each *long* bone is composed of a cylinder, known as the *shaft*, and two *extremities*. The shaft is hollow, its walls being *thickest* in the middle and growing thinner toward the extremities. The *extremities* are usually considerably enlarged, for convenience of connection with other bones and to afford a broad surface for the attachment of muscles. The clavical, humerus, radius, ulna, femur, tibia, fibula, the bones of the metacarpus, metatarsus and the phalanges, are classed as long bones.

Where the principal object to be attained is strength, and the motion of the skeleton is limited, the individual bones are short and compressed, as the bones of the carpus and tarsus. The structure of these bones is spongy, except at the surface, where there is a thin crust of compact matter.

Fig. 17.



Anatomy of a joint. *1, 1.* Bones of a joint. *2, 2.* Cartilage. *3, 3, 3, 3.* Synovial membrane.

Fig. 18.

Anatomy of the knee-joint. *1.* Lower end of thigh-bone. *3.* Knee-pan. *2, 4.* Ligaments of the knee-pan. *5.* Upper end of the tibia, or shin-bone. *6, 12.* Cartilages.

When protection is required for the organs of the body, or a broad flat surface for the attachment of the muscles, the bones are expanded into plates, as in the cranium and shoulder-blades.

The *irregular* or *mixed* bones are those which, from their peculiar shape, cannot be classed among any of the foregoing divisions. Their structure is similar to the others, consisting of cancellar tissue, surrounded by a crust of compact matter.

The vertebræ, sacrum, coccyx, temporal, sphenoid, ethmoid, malar, two maxillary, palate, inferior turbinated, and hyoid are known as irregular bones.

The formation of the joints requires not only bones, but also

cartilages, ligaments, and the synovial membrane, to complete the articulation. *Cartilage* is a smooth, elastic substance, softer than bone, and invested with a thin membrane, called *perichondrium.* When cartilage is placed upon convex surfaces, the reverse is true. The *Ligaments* are white, inelastic, tendinous substances, softer than cartilage, but harder than membrane. Their function is to bind together the bones. The *Synovial Membrane* covers the cartilages, and is then reflected upon the ligaments, thus forming a thin, closed sac, called the *synovial capsule.*

All the synovial membranes secrete a lubricating fluid, termed *synovia,* which enables the surfaces of the bones and ligaments to move freely upon one another. When this fluid is secreted in excessive quantities, it produces a disease known as "dropsy of the joints." There are numerous smaller sacs besides the synovial, called *bursæ mucosæ,* which in structure are analogous to them, and secrete a similar fluid. Some joints permit motion in every direction, as the shoulders, some in two directions only, as the elbows, while others do not admit of any movement. The bones, ligaments, cartilages, and synovial membrane, are supplied with nerves, arteries, and veins.

When an animal is provided with an internal bony structure, it indicates a high rank in the scale of organization. An elaborate texture of bone is found in no class below the vertebrates. Even in the lower order of this sub-kingdom, which is the highest of animals, bone does not exist, as is the case in some tribes of fishes, such as sharks, etc., and in all classes below that of the cartilaginous fishes, the inflexible substance which sustains the soft parts is either shell or some modification of bone, and is usually found on the outside of the body. True bone, on the contrary, is found in the interior, and, therefore, in higher animals, the skeleton is always internal, while the soft parts are placed external to the bony frame. While many animals of the lowest species, being composed of soft gelatinous matter, are buoyant in water, the highest type of animals requires not only a bony skeleton, but also a flexible, muscular system, for locomotion in the water or upon the land. Each species of the animal kingdom is thus organically adapted to its condition and sphere of life.

CHAPTER III.

PHYSIOLOGICAL ANATOMY.

THE MUSCLES.

The *Muscles* are those organs of the body by which motion is produced, and are commonly known as *flesh*. A muscle is composed of *fasciculi*, or bundles of fibers, parallel to one another. They are soft, varying in size, of a reddish color, and inclosed in a cellular, membranous sheath. Each *fasciculus* contains a number of small fibers, which, when subjected to a microscopic examination, are found to consist of *fibrillæ*, or little fibers; each of these fibrillæ in turn being invested with a delicate sheath. The fibers terminate in a glistening, white *tendon*, or hard cord, which is attached to the bone. So firmly are they united, that the bone will break before the tendon can be released. When the tendon is spread out, so as to resemble a membrane, it is called *fascia*. Being of various extent and thickness, it is distributed over the body, as a covering and protection for the more delicate parts, and aids also in motion, by firmly uniting the muscular fibers. The spaces between the muscles are frequently filled with fat, which gives roundness and beauty to the limbs. The muscles are of various forms; some are longitudinal, each extremity terminating in a tendon, which gives them a *fusiform* or spindle-shaped appearance; others are either fan-shaped, flat, or cylindrical.

Fig. 19.

Muscular fibers highly magnified.

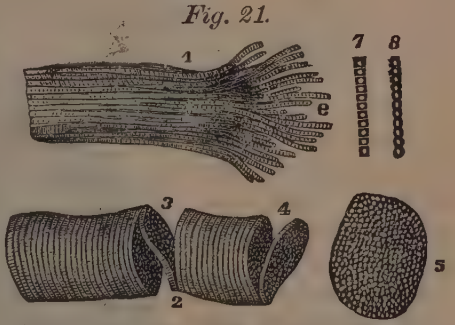
Every muscle has an *origin* and an *insertion*. The term *origin* is applied to the more fixed or central attachment of a muscle, and the term *insertion* to the movable point to which the force of the muscle is directed; but the origin is not absolutely fixed, except in a small number of muscles, as those of the face, which are attached at one extremity to the bone, and at the other to the movable integument, or skin. In most instances, the muscles may act from either extremity. The muscles are divided into the Voluntary, or muscles of animal life, and the Involuntary, or muscles of organic life. There are, however, some muscles which cannot properly be classified with either, termed Intermediate.

Fig. 20.

1. A spindle-shaped muscle, with tendinous terminations. *2.* Fan-shaped muscle. *3.* Penniform muscle. *4.* Bipenniform muscle.

The *Voluntary Muscles* are chiefly controlled by the will, relaxing and contracting at its pleasure, as in the motion of the eyes, mouth, and limbs. The fibers are of a dark red color, and possess great strength. These fibers are parallel, seldom interlacing, but presenting a striped or striated appearance; and a microscopic examination of them shows that even the most minute consist of parallel filaments marked by longitudinal and transverse *striæ*, or minute channels. The fibers are nearly the same length as the muscles to which they belong. Each muscular fiber is capable of

Fig. 21.



Striped muscular fibers showing cleavage in opposite directions. *1.* Longitudinal cleavage. *2.* Transverse cleavage. *3.* Transverse section of disc. *4.* Disc nearly detached. *5.* Detached disc, showing the sarcous elements. *6.* Fibrillæ. *7, 8.* Separated fibrillæ highly magnified.

contraction; it may act singly, though usually it acts in unison with others. By a close inspection, it has been found that fibers may be drawn apart longitudinally, in which case they are termed *fibrillæ*, or they may be separated transversely, forming a series of discs. The *Sarcolemma*, or investing sheath of the muscles, appears to be formed even before there are any visible traces of the muscle itself. It is a transparent and delicate membrane, but very elastic. The *Involuntary Muscles* are influenced by the sympathetic nervous system, and their action pertains to the nutritive functions of the body. They differ from the voluntary muscles in not being striated, having no tendons, and in the net-work arrangements of their fibers. The *Intermediate Muscles* are composed of striated and unstriated fibers; they are, therefore, both voluntary and involuntary in their functions. The muscles employed in respiration are of this class, for we can breathe rapidly or slowly, and, for a short time, even suspend their action; but soon, however, the organic muscles assert their instinctive control, and respiration is resumed.

Fig. 22.

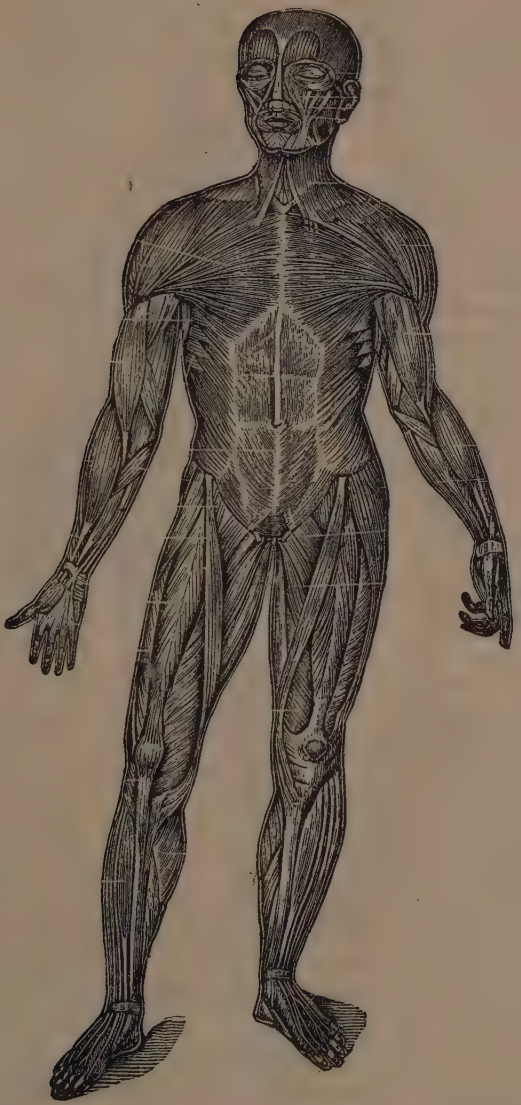
Unstriated muscular fiber; at *b*, in its natural state; at *a*, showing the nuclei after the action of acetic acid.

The Diaphragm, or midriff, is the muscular division between the thorax and the abdomen. It has been compared to an inverted basin, the concavity of which is

Fig. 23.

A view of the under side of the diaphragm.

Fig. 24.



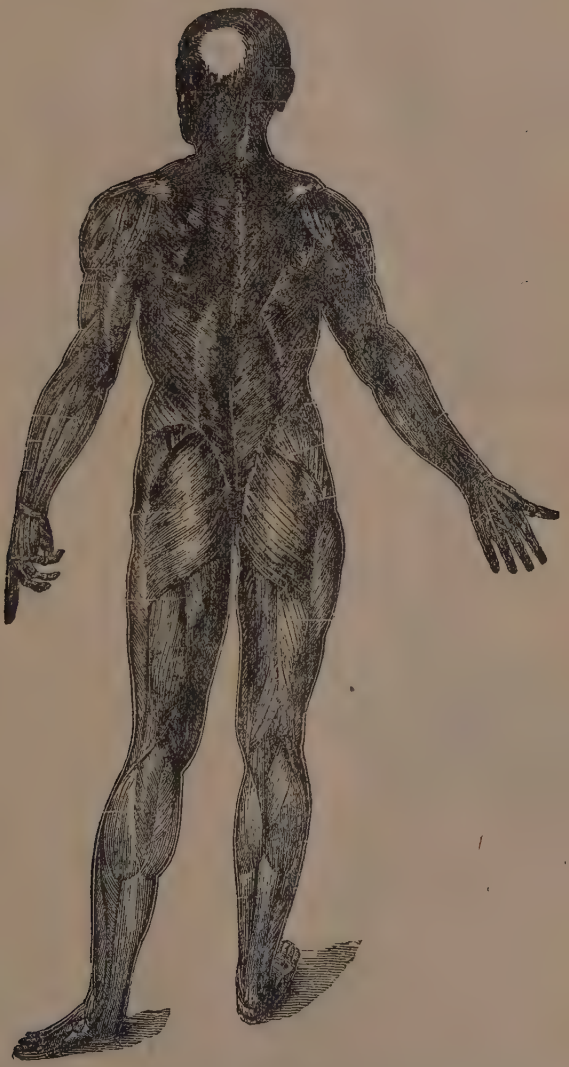
A representation of the superficial layer of muscles on the anterior portion of the body.

directed toward the abdomen. The muscles receive their nourishment from the numerous blood-vessels which penetrate their tissues. The voluntary muscles are abundantly supplied with nerves, while the involuntary are not so numerously furnished. The color of the muscles is chiefly due to the blood which they contain. They vary in size according to their respective functions. For example, the functions of the heart require large and powerful muscles, and those of the eye, small and delicate ones. There are between four hundred and sixty and five hundred muscles in the human body.

Very rarely is motion produced by the action of a single muscle, but by the harmonious action of several. There is infinite variety in the arrangement of the muscles, each being adapted to its purpose, in strength, tenacity, or elasticity. While some involuntarily respond to the wants of organic life, others obey, with mechanical precision, the edicts of the will. The peculiar characteristic of the muscles is their contractility; for example, when the tip of the finger is placed in the ear, an incessant vibration, due to the contraction of the muscles of the ear, can be heard. When the muscles contract, they become shorter; but what is lost in length is gained in breadth and thickness, so that their actual volume remains the same. Muscles alternately contract and relax, and thus act upon the bones. The economy of muscular power thus displayed is truly remarkable. In easy and graceful walking, the forward motion of the limbs is not altogether due to the exercise of muscular power, but partly to the force of gravity, and only a slight assistance of the muscles is required to elevate the leg sufficiently to allow it to oscillate.

Motion is a characteristic of living bodies. This is true, not only in animals, but also in plants. The oyster, although not possessing the power of locomotion, opens and closes its shell at pleasure. The coral insect appears at the door of its cell, and retreats at will. All the varied motions of animals are due to a peculiar property of the muscles, termed *contractility*. Although plants are influenced by external agents, as light, heat, electricity, etc., yet it is supposed that they may move in response to inward impulses. The sensitive stamens of the barberry, when touched at their base on the inner side, resent the intrusion, by making a sudden jerk forward. Venus's

Fig. 25.



A representation of the superficial layer of muscles on the posterior portion of the body.

fly-trap, a plant found in North Carolina, is remarkable for the sensitiveness of its leaves, which close suddenly and capture insects which chance to alight upon them. The muscles of the articulates are situated within the solid frame-work, unlike the vertebrates, whose muscles are external to the bony skeleton. All animals have the power of motion, from the lowest radiate to the highest vertebrate, from the most repulsive polyp to that type of organized life made in the very image of God.

The muscles, then, subserve an endless variety of purposes. By their aid the farmer employs his implements of husbandry, the mechanic deftly wields his tools, the artist plies his brush, while the fervid orator gives utterance to thoughts glowing with heavenly emotions. It is by their agency that the sublimest spiritual conceptions can be brought to the sphere of the senses, and the noblest, loftiest aims of to-day can be made glorious realizations of the future.

CHAPTER IV.

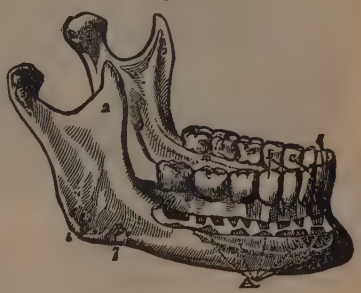
PHYSIOLOGICAL ANATOMY.

THE DIGESTIVE ORGANS.

Digestion signifies the act of separating or distributing, hence its application to the process by which food is made available for nutritive purposes. The organs of digestion are the Mouth, Teeth, Tongue, Salivary Glands, Pharynx, Esophagus, the Stomach and the Intestines, with their glands, the Liver, Pancreas, Lacteals, and the Thoracic Duct.

The *Mouth* is an irregular cavity, situated between the upper and the lower jaw, and contains the organs of mastication. It is bounded by the lips in front, by the cheeks at the sides, by the roof of the mouth and teeth of the upper jaw above, and behind and beneath by the teeth of the lower jaw, soft parts, and palate. The soft palate is a sort of pendulum attached only at one of its extremities, while the other involuntarily opens and closes the passage from the mouth to the pharynx. The interior of the mouth, as well as other portions of the alimentary canal, is lined with a delicate tissue, called *mucous membrane.*

Fig. 26.



A view of the lower jaw. *1.* The body. *2. 2.* Rami, or branches. *3, 3.* Processes of the lower jaw. *m.* Molar teeth. *b.* Bicuspids. *c.* Cuspids. *i.* Incisors.

The *Teeth* are firmly inserted in the alveoli or sockets, of the upper and the lower jaw. The first set, twenty in number, are temporary, and appear during infancy. They are replaced

by permanent teeth, of which there are sixteen in each jaw; four incisors, or front teeth, four cuspids, or eye teeth, four bicuspids, or grinders, and four molars, or large grinders. Each tooth is divided into the crown, body, and root. The *crown* is the grinding surface; the *body*, the part projecting from the jaw, is the seat of sensation and nutrition; the *root* is that portion of the tooth which is inserted in the alveolus. The teeth are composed of dentine, or ivory, and enamel. The ivory forms the greater portion of the body and root, while the enamel covers the exposed surface. The small white cords communicating with the teeth are the nerves.

The *Tongue* is a flat oval organ, the base of which is attached to the os hyoides, while the apex, the most sensitive part of the body, is free. Its surface is covered with a membrane, which, at the sides and lower part, is continuous with the lining of the mouth. On the lower surface of the tongue, this membrane is thin and smooth, but on the upper side it is covered with numerous papillæ, which, in structure, are similar to the sensitive papillæ of the skin.

Fig. 27.

The salivary glands. The largest one, near the ear, is the parotid gland. The next below it is the submaxillary gland. The one under the tongue is the sublingual gland.

The *Salivary Glands* are six in number, three on each side of the mouth. Their function is to secrete a fluid called *saliva*, which aids in mastication. The largest of these glands, the *Parotid*, is situated in front and below the ear; its structure, like that of all the salivary glands, is cellular. The *Submaxillary* gland is circular in form, and situated midway between the

angle of the lower jaw and the middle of the chin. The *Sublingual* is a long flattened gland, and, as its name indicates, is located below the tongue, which when elevated, discloses the saliva issuing from its porous openings.

The *Pharynx* is nearly four inches in length, formed of muscular and membranous cells, and situated between the base of the cranium and the esophagus, in front of the spinal column. It is narrow at the upper part, distended in the middle, contracting again at its junction with the esophagus. The pharynx communicates with the nose, mouth, larynx, and esophagus.

The *Esophagus*, a cylindrical organ, is a continuation of the pharynx, and extends through the diaphragm to the stomach. It has three coats: first, the muscular, consisting of an exterior layer of fibers running longitudinally, and an interior layer of transverse fibers; second, the cellular, which is interposed between the muscular and the mucous coat; third, the mucous membrane, or internal coat, which is continuous with the mucous lining of the pharynx.

Fig. 28.

A representation of the interior of the stomach. *1.* The esophagus. *2.* Cardiac orifice opening into the stomach. *6.* The middle or muscular coat. *7.* The interior or mucous coat. *10.* The beginning of the duodenum. *11.* The pyloric orifice.

The *Stomach* is a musculo-membranous, conoidal sac, communicating with the esophagus by means of the cardiac orifice (see Fig. 28). It is situated obliquely with reference to the body, its base lying at the left side, while the apex is directed toward the right side. The stomach is between the liver and spleen, subjacent to the diaphragm, and communicates with the intestinal canal by the pyloric orifice. It has three coats. The peritoneal, or external coat is composed of compact, cellular tissue, woven into a thin, serous membrane, and assists in keeping the stomach in place. The middle coat is formed of three layers of muscular fibers: in the first, the fibres run

longitudinally; in the second, in a circular direction; and in the third, they are placed obliquely to the others. The interior, or mucous coat, lines this organ. The stomach has a soft, spongy appearance, and, when not distended, lies in folds. During life, it is ordinarily of a pinkish color. It is provided with numerous small glands, which secrete the gastric fluid necessary for the digestion of food. The lining membrane, when divested of mucus, has a wrinkled appearance. The arteries, veins, and lymphatics, of the stomach are numerous.

The *Intestines* are those convoluted portions of the alimentary canal into which the food is received after being partially digested, and in which the separation and absorption of the nutritive materials and the removal of the residue take place. The coats of the intestines are analogous to those of the stomach, and are, in fact, only extensions of them. For convenience of description, the intestines may be divided into the *small* and the *large*. The small intestine is from twenty to twenty-five feet in length, and consists of the Duodenum, Jejunum, and Ileum. The *Duodenum*, so called because its length is equal to the breadth of twelve fingers, is the first division of the small intestine. If the mucous membrane of the duodenum be examined, it will be found thrown into numerous folds, which are called *valvulæ conniventes*, the chief function of which appears to be to retard the course of the alimentary matter, and afford a larger surface for the accommodation of the absorbent vessels. Numerous *villi*, minute thread-like projections, will be

Fig. 29.

Small and large intestines. *1, 1, 2, 2.* Small intestine. *3.* Its termination in the large intestine. *4.* Appendix vermiformis. *5.* Cæcum. *6.* Ascending colon. *7.* Transverse colon. *8.* Descending colon. *9.* Sigmoid flexure of colon. *10.* Rectum.

found scattered over the surface of these folds, set side by side, like the pile of velvet. Each *villus* contains a net-work of blood-vessels, and a lacteal tube, into which the ducts from the liver and pancreas open, and pour their secretions to assist in the conversion of the chyme into chyle. The *Jejunum*, so named because it is usually found empty after death, is a continuation of the duodenum, and is that portion of the alimentary canal in which the absorption of nutritive matter is chiefly effected. The *Ileum*, which signifies something rolled up, is the longest division of the small intestine. Although somewhat thinner in texture than the jejunum, yet the difference is scarcely perceptible. The large intestine is about five feet in length, and is divided into the Cæcum, Colon, and Rectum. The *Cæcum* is about three inches in length. Between the large and the small intestine is a valve, which prevents the return of excrementitious matter that has passed into the large intestine. There is attached to the cæcum an appendage about the size of a goose-quill, and three inches in length, termed the *appendix vermiformis*. The *Colon* is that part of the large intestine which extends from the cæcum to the rectum, and which is divided into three parts, distinguished as the ascending, the transverse, and the descending.

Fig. 30.

Villi of the small intestine greatly magnified.

Fig. 31.

A section of the Ileum, turned inside out, so as to show the appearance and arrangement of the villi on an extended surface

The *Rectum* is the terminus of the large intestine. The intestines are abundantly supplied with blood-vessels. The arteries of the small intestine are from fifteen to twenty in number. The large intestine is furnished with three arteries, called the *colic arteries*. The *ileo-colic artery* sends branches to the lower part of the ileum, the head of the colon, and the appendix vermiformis. The *right colic artery* forms arches, from which branches are distributed to the ascending colon. The *colica media* separates into two branches, one of which is sent to the right portion of the transverse colon, the other to the left. In its course, the *superior hemorrhoidal artery* divides into two branches, which enter the intestine from behind, and embrace it on all sides, almost to the anus.

Fig. 32.

c, c. Right and left subclavian veins. *b.* Inferior vena cava. *a.* Intestines. *d.* Entrance of the thoracic duct into the left subclavian vein. *4.* Mesenteric glands, through which the lacteals pass to the thoracic duct.

The *Thoracic Duct* is the principal trunk of the absorbent system, and the canal through which much of the chyle and lymph is conveyed to the blood. It begins by a convergence and union of the lymphatics on the lumbar vertebræ, in front of the spinal column, then passes upward through the diaphragm to the lower part of the neck, thence curves forward and downward, opening into the subclavian vein near its junction with the left jugular vein, which leads to the heart.

The *Liver*, which is the largest gland in the body, weighs

about four pounds in the adult, and is located chiefly on the right side, immediately below the diaphragm. It is a single organ, of a dark red color, its upper surface being convex, while the lower is concave. It has two large lobes, the right being nearly four times as large as the left. The liver has two coats, the *serous*, which is a complete investment, with the exception of the diaphragmatic border, and the depression for the gall-bladder, and which helps to suspend and retain the organ in position; and the *fibrous*, which is the inner coat of the liver, and forms sheaths for the blood-vessels and excretory ducts. The liver is abundantly supplied with arteries, veins, nerves, and lymphatics. Unlike the other glands of the human body, it receives two kinds of blood; the arterial for its nourishment, and the venous, from which it secretes the bile. In the lower surface of the liver is lodged the gall-bladder, a membranous sac, or reservoir, for the bile. This fluid is not absolutely necessary to the digestion of food, since this process is effected by other secretions, nor does bile exert any special action upon starchy or oleaginous substances, when mixed with them at a temperature of 100° F. Experiments also show that in some animals there is a constant flow of bile, even when no food has been taken, and there is consequently no digestion to be performed. Since the bile is formed from the venous blood, and taken from the waste and disintegration of animal tissue, it would appear that it is chiefly an excrementitious fluid. It does not seem to have accomplished its function when discharged from the liver and poured into the intestine, for there it undergoes various alterations previous to re-absorption, produced by its contact with the intestinal juices. Thus the bile, after being

Fig. 33.

The inferior surface of the liver. *1.* Right lobe. *2.* Left lobe. *3.* Gall-bladder.

transformed in the intestines, re-enters the blood under a new form, and is carried to some other part of the system to perform its mission.

Fig. 34.

Digestive organs. *8.* The tongue. *7.* Parotid gland. *8.* Sublingual gland. *5.* Esophagus. *9.* Stomach. *10.* Liver. *11.* Gall-bladder. *14.* Pancreas. *13, 13.* The duodenum. The small and large intestines are represented below the stomach.

The *Spleen* is oval, smooth, convex on its external, and irregularly concave on its internal, surface. It is situated on the left side, in contact with the diaphragm and stomach. It is of a dark red color, slightly tinged with blue at its edges Some physiologists affirm that no organ receives a greater quantity of blood, according to its size, than the spleen. The structure of the spleen and that of the mesenteric glands are similar, although the former is provided with a scanty supply of lymphatic vessels, and the chyle does not pass through it, as through the mesenteric glands. The *Pancreas* lies behind the stomach, and extends transversely across the spinal column to the right of the spleen. It is of a pale, pinkish color, and its secretion is analogous to that of the salivary glands; hence it has been called the *Abdominal Salivary Gland.*

Digestion is effected in those cavities which we have described

as parts of the alimentary canal. The food is first received into the mouth, where it is masticated by the teeth, and, after being mixed with mucus and saliva, is reduced to a mere pulp; it is then collected by the tongue, which, aided by the voluntary muscles of the throat, carries the food backward into the pharynx, and, by the action of the involuntary muscles of the pharynx and esophagus, is conveyed to the stomach. Here the food is subjected to a peculiar, churning movement, by the alternate relaxation and contraction of the fibers which compose the muscular wall of the stomach. As soon as the food comes in contact with the stomach, its pinkish color changes to a bright red; and from the numerous tubes upon its inner surface is discharged a colorless fluid, called the *gastric juice*, which mingles with the food and dissolves it. When the food is reduced to a liquid condition, it accumulates in the pyloric portion of the stomach. Some distinguished physiologists believe that the food is kept in a gentle, unceasing, but peculiar motion, called *peristaltic*, since the stomach contracts in successive circles. In the stomach the food is arranged in a methodical manner. The undigested portion is detained in the upper, or cardiac extremity, near the entrance of the esophagus, by contraction of the circular fibers of the muscular coat. Here it is gradually dissolved, and then carried into the pyloric portion of the stomach. From this, then, it appears, that the dissolved and undissolved portions of food occupy different parts of the stomach. After the food has been dissolved by the gastric fluid, it is converted into a homogeneous, semi-fluid mass, called *chyme*. This substance passes from the stomach through the pyloric orifice into the duodenum, in which, by mixing with the bile and pancreatic fluid, its chemical properties are again modified, and it is then termed *chyle*, which has been found to be composed of three distinct parts, a reddish-brown sediment at the bottom, a whey-colored fluid in the middle, and a creamy film at the top. Chyle is different from chyme in two respects: First, the alkali of the digestive fluids, poured into the duodenum, or upper part of the small intestine, neutralizes the acid of the chyme; secondly, both the bile and the pancreatic fluid seem to exert an influence over the fatty substances contained in the chyme, which assists the subdivision of these

fats into minute particles. While the chyle is propelled along the small intestine by the peristaltic action, the matter which it contains in solution is absorbed in the usual manner into the vessels of the villi by the process called *osmosis.* The fatty matters being subdivided into very minute particles, but not dissolved, and consequently incapable of being thus absorbed by osmosis, pass bodily through the epithelial lining of the intestine into the commencement of the lacteal tubes in the villi. The digested substances, as they are thrust along the small intestines, gradually lose their albuminoid, fatty, and soluble starchy and saccharine matters, and pass through the ileo-cæcal valve into the cæcum and large intestine. An acid reaction takes place here, and they acquire the usual fæcal smell and color, which increases as they approach the rectum. Some physiologists have supposed that a second digestion takes place in the upper portion of the large intestine. The lacteals, filled with chyle, pass into the mesenteric glands with which they freely unite, and afterward enter the *receptaculum chyli*, which is the commencement of the thoracic duct, a tube of the size of a goose-quill, which lies in front of the backbone. The lymphatics, the function of which is to secrete and elaborate lymph, also terminate in the *receptaculum chyli*, or receptacle for the chyle. From this reservoir the chyle and lymph flow into the thoracic duct, through which they are conveyed to the left subclavian vein, there to be mingled with venous blood. The blood, chyle, and lymph, are then transmitted directly to the lungs.

The process of nutrition aids in the development and growth of the body; hence it has been aptly designated a "perpetual reproduction." It is the process by which every part of the body assimilates portions of the blood distributed to it. In return, the tissues yield a portion of the material which was once a component part of their organization. The body is constantly undergoing waste as well as repair. One of the most interesting facts in regard to the process of nutrition in animals and plants is, that all tissues originate in cells. In the higher types of animals, the blood is the source from which the cells derive their constituents. Although the alimentary canal is more or less complicated in different

classes of animals, yet there is no species, however low in the scale of organization, which does not possess it in some form.* The little polyp has only one digestive cavity, which is a pouch in the interior of the body. In some animals circulation is not distinct from digestion, in others respiration and digestion are performed by the same organs; but as we rise in the scale of animal life, digestion and circulation are accomplished in separate cavities, and the functions of nutrition become more complex and distinct.

*The males of Cryptophialus and Alcippe, species of marine animals, are apparent exceptions to this rule. They are parasitic, possess neither mouth, stomach, thorax, nor abdomen, and are, necessarily, short-lived.

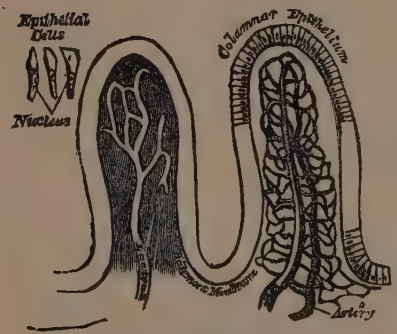
CHAPTER V.

PHYSIOLOGICAL ANATOMY.

ABSORPTION.

Absorption is the vital function by which nutritive materials are selected and imbibed for the sustenance of the body. Absorption, like all other functional processes, employs agents to effect its purposes, and the *villi* of the small intestine, with their numberless projecting organs, are specially employed to imbibe fluid substances; this they do with a celerity commensurate to the importance and extent of their duties. They are little vascular prominences of the mucous membrane, arising from the interior surface of the small intestine. Each villus has two sets of vessels. (1.) The blood-vessels, which, by their frequent blending, form a complete net-work beneath the external epithelium; they unite at the base of the villus, forming a minute vein, which is one of the sources of the portal vein. (2.) In the center of the villus is another vessel, with thinner and more transparent walls, which is the commencement of a lacteal.

Fig. 35.



Villi of the small intestine greatly magnified.

The *Lacteals* originate in the walls of the alimentary canal,

are very numerous in the small intestine, and, passing between the laminæ of the mesentery, they terminate in the *receptaculum chyli*, or reservoir for the chyle. The mesentery consists of a double layer of cellular and adipose tissue. It incloses the blood-vessels, lacteals, and nerves of the small intestine, together with its accessory glands. It is joined to the posterior abdominal wall by a narrow *root*; anteriorly, it is attached to the whole length of the small intestine. The lacteals are known as the absorbents of the intestinal walls, and after digestion is accomplished, are found to contain a white, milky fluid, called *chyle*. The chyle does not represent the entire product of digestion, but only the fatty substances suspended in a serous fluid.

Formerly, it was supposed that the lacteals were the only agents employed in absorption, but more recent investigations have shown that the blood-vessels participate equally in the process, and are frequently the more active and important of the two. Experiments upon living animals have proved that absorption of poisonous substances occurs, even when all communication by way of the lacteals and lymphatics is obstructed, the passage by the blood-vessels alone remaining. The absorbent power which the blood-vessels of the alimentary canal possess, is not limited to alimentary substances, but through them, soluble matters of almost every description are received into the circulation.

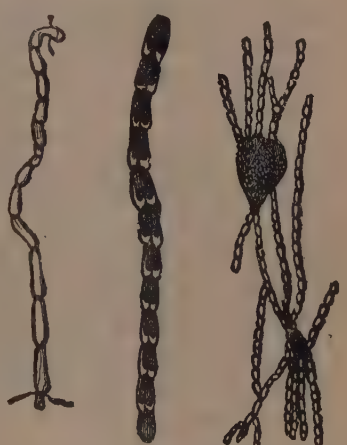
The *Lymphatics* are not less important organs in the process of absorption. Nearly every part of the body is permeated by a second series of capillaries, closely interlaced with the blood-vessels, collectively termed the *Lymphatic System*. Their origin is not known, but they appear to form a *plexus* in the tissues, from which their converging trunks arise. They are composed of minute tubes of delicate membrane, and from their net-work arrangement they successively unite and finally terminate in two main trunks, called the *great lymphatic veins*. The lymphatics, instead of commencing on the intestinal walls, as do the lacteals, are distributed through most of the vascular tissues as well as the skin. The lymphatic circulation is not unlike that of the blood; its circulatory apparatus is, however, more delicate, and its functions are not so well understood.

Fig. 36.

A general view of the Lymphatic System.

The *lymph* which circulates through the lymphatic vessels is an alkaline fluid composed of a plasma and corpuscles. It may be considered as blood deprived of its red corpuscles and diluted with water. Nothing very definite is known respecting the functions of this fluid. A large proportion of its constituents is derived from the blood, and the exact connection of these substances to nutrition is not properly understood. Some excrementitious matters are supposed to be taken from the tissues by the lymph and discharged into the blood, to be ultimately removed from the system. The lymph accordingly exerts an important function by removing a portion of the decayed tissues from the body.

Fig. 37.



1. A representation of a lymphatic vessel highly magnified. *2.* Lymphatic valves. *3.* A lymphatic gland and its vessels.

In all animals which possess a lacteal system there is also a lymphatic system, the one being the complement of the other. The fact that lymph and chyle are both conveyed into the general current of circulation, leads to the inference that the lymph, as well as the chyle, aids in the process of nutrition. The body is continually undergoing change, and vital action implies waste of tissues, as well as their growth. Those organs which are the instruments of motion, as the muscles, cannot be employed without wear and waste of their component parts. Renovated tissues must replace those which are worn out, and it is a part of the function of the absorbents to convey nutritive material into the general circulation. Researches in microscopical anatomy have shown that the skin contains multitudes of lymphatic vessels and that it is a powerful absorbent.

Absorption is one of the earliest and most essential functions of animal and vegetables tissues. The simpler plants consist of only a few cells, all of which are employed in absorption; but

in the flowering plants this function is performed by the roots. It is accomplished on the same general principles in animals, yet it presents more modifications and a greater number of organs than in vegetables. While animals receive their food into a sac, or bag called the *stomach*, and are provided with absorbent vessels such as nowhere exist in vegetables, plants plunge their absorbent organs into the earth, whence they derive nourishing substances. In the lower order of animals, as in sponges, this function is performed by contiguous cells, in a manner almost as elementary as in plants. In none of the invertebrate animals is there any *special* absorbent system. Internal absorption is classified by some authors as follows: *interstitial*, *recrementitial*, and *excrementitial*; by others as *accidental*, *venous*, and *cutaneous*. The general cutaneous and mucous surfaces exhale, as well as absorb; thus the skin, by means of its sudoriferous glands, exhales moisture, and is at the same time as before stated, a powerful absorbent. The mucous surface of the lungs is continually throwing off carbonic acid and absorbing oxygen; and through their surface poisons are sometimes taken into the blood. The continual wear and waste to which living tissues are subject, makes necessary the provision of such a system of vessels for conveying away the worn-out materials and supplying the body with new.

CHAPTER VI.

PHYSICAL AND VITAL PROPERTIES OF THE BLOOD.

Blood is the animal fluid by which the tissues of the body are nourished. This pre-eminently vital fluid permeates every organ, distributes nutritive material to every texture, is essentially modified by respiration, and, finally, is the source of every secretion and excretion. Blood has four constituents: Fibrin, Albumen, Salts (which elements, in solution, form the *liquor sanguinis*), and the Corpuscles. Microscopical examination shows that the corpuscles are of two kinds, known as the *red* and the *white*, the former being by far the more abundant. They are circular in form and have a smooth exterior, and are on an average $\frac{1}{3200}$ part of an inch in diameter, and are about one-fourth of that in thickness. Hence more than ten millions of them may lie on a space an inch square. If spread out in thin layers and subjected to transmitted light, they present a slightly yellowish color, but when crowded together and viewed by refracted light, exhibit a deep red color. These blood-corpuscles have been termed *discs*, and are not, as some have supposed, solid material, but are very nearly fluid. The red corpuscles, although

Fig. 38.

Red corpuscles of human blood, represented at *a*, as they are seen when rather *beyond* the focus of the microscope; and at *b* as they appear when *within* the focus. Magnified 400 diameters.

subjected to continual movement, have a tendency to approach one another, and when their flattened surfaces come in contact, so firmly do they adhere that they change their shape rather than submit to a separation. If separated, however, they return to their usual form. The colorless corpuscles are larger than the red and differ from them in being extremely irregular in their shape, and in their tendency to adhere to a smooth surface, while the red corpuscles float about and tumble over one another. They are chiefly remarkable for their continual variation in form. The shape of the red corpuscles is only altered by external influences, but the white are constantly undergoing alterations, the result of changes taking place within their own substance. When diluted with water and placed under the microscope they are found to consist of a spheroidal sac, containing a clear or granular fluid and a spheroidal vesicle, which is termed the *nucleus*. They have been regarded by some physiologists as identical with those of the lymph and chyle. Dr. Carpenter believes that the function of these cells is to convert albumen into fibrin, by the simple process of cell-growth. It is generally believed that the red corpuscles are derived in some way from the colorless. It is supposed that the red corpuscle is merely the nucleus of a colorless corpuscle enlarged, flattened, colored and liberated by the bursting of the wall of its cell. When blood is taken from an artery and allowed to remain at rest, it separates into two parts: a solid mass, called the *clot*, largely composed of fibrin; and a fluid known as the *serum*, in which

Fig. 39.

Development of human lymph and chyle-corpuscles into red corpuscles of blood. *A*. A lymph, or white blood-corpuscle. *B*. The same in process of conversion into a red corpuscle. *C*. A lymph-corpuscle with the cell-wall raised up around it by the action of water. *D*. A lymph-corpuscle, from which the granules have almost disappeared. *E*. A lymph-corpuscle, acquiring color; a single granule, like a nucleus, remains. *F*. A red corpuscle fully developed.

the clot is suspended. This process is termed *coagulation*. The serum, mostly composed of *albumen*, is a transparent, straw-colored fluid, having the odor and taste of blood. The whole quantity of blood in the body is estimated on an average to be about one-ninth of its entire weight. The distinctions between the arterial and the venous blood are marked, since in the arterial system the blood is uniformly bright red, and in the venous of a very dark red color. The blood-corpuscles contain both oxygen and carbonic acid in solution. When carbonic acid predominates, the blood is dark red; when oxygen, scarlet. In the lungs, the corpuscles give up carbonic acid, and absorb a fresh supply of oxygen, while in the general circulation the oxygen disappears in the process of tissue transformation, and is replaced, in the venous blood, by carbonic acid. The nutritive portions of food are converted into a homogeneous fluid, which pervades every part of the body, is the basis of every tissue, and which is termed the *blood*. This varies in color and composition in different animals. In the polyp the nutritive fluid is known as *chyme*, in many mollusks, as well as articulates, it is called *chyle*, but in vertebrates, it is more highly organized and is called blood. In all the higher animal types it is of a red color, although redness is not one of its essential qualities. Some tribes of animals possess true blood, which is not red; thus the blood of the insect is colorless and transparent; that of the reptile yellowish; in the fish the principle part is without color, but the blood of the bird is deep red. The blood of the mammalia is of a bright scarlet hue. The temperature of the blood varies in different species, as well as in animals of the same species under different physiological conditions; for this reason, some animals are called *cold-blooded*. Disease also modifies the temperature of the blood; thus in fevers it is generally increased, but in cholera greatly diminished. The blood has been aptly termed the "vital fluid," since there is a constant flow from the heart to the tissues and organs of the body, and a continual return after it has circulated through these parts. Its presence in every part of the body is one of the essential conditions of animal life, and is effected by a special set of organs, called the *circulatory organs*.

CHAPTER VII.

PHYSIOLOGICAL ANATOMY.

CIRCULATORY ORGANS.

Having considered the formation of chyle, traced it through the digestive process, seen its transmission into the *vena cava*, and, finally, its conversion into blood, we shall now describe how it is distributed to every part of the system. This is accomplished through organs which, from the round of duties they perform, are called *circulatory*. These are the Heart, Arteries, Veins, and Capillaries, which constitute the *vascular system*.

Within the thorax or chest of the human body, and enclosed within a membranous sac, called the *pericardium*, is the great force-pump of the system, the heart. This organ, to which all the arteries and veins of the body may be either directly or indirectly traced, is roughly estimated to be equal in size to the closed fist of the individual to whom it belongs.

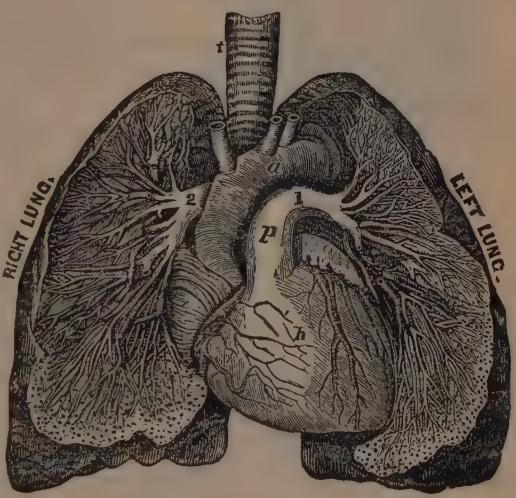
It has a broad end turned upwards, and a little to the right side, termed its *base;* and a pointed end called its *apex*, turned downwards, forwards, and to the left side, and lying beneath a point about an inch to the right of, and below, the left nipple, or just below the fifth rib. Attached to the rest of the body only by the great blood-vessels which issue from and enter it at its base, the heart is the most mobile organ in the economy, being free to move in different directions.

The heart is divided into two great cavities by a fixed partition, which extends from the base to the apex of the organ, and which prevents any direct communication between them. Each of these great cavities is further subdivided transversely

by a movable partition, the cavity above each transverse partition being called the *auricle*, and the cavity below, the *ventricle*, right or left, as the case may be.

The walls of the auricles are much thinner than those of the ventricles, and the wall of the right ventricle is much thinner than that of the left, from the fact that the ventricles have more work to perform than the auricles, and the left ventricle more than the right.

Fig. 40.

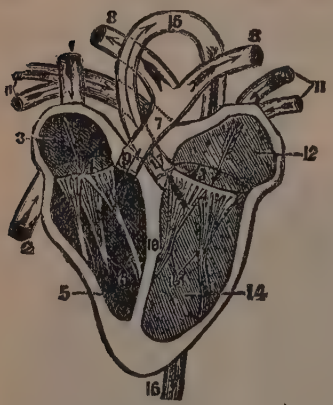


General view of the heart and lungs. *t.* Trachea, or wind-pipe. *a.* Aorta. *p.* Pulmonary artery. *1, 2.* Branches of the pulmonary artery, one going to the right, the other to the left lung. *h.* The heart.

In structure, the heart is composed almost entirely of muscular fibers, which are arranged in a very complex and wonderful manner. The outer surface of the heart is covered with the pericardium, which closely adheres to the muscular substance. Inside, the cavities are lined with a thin membrane, called the *endocardium.* At the junction between the auricles and ventricles, the apertures of communication between their cavities are strengthened by *fibrous rings.* Attached to these fibrous rings are the movable partitions or valves, between the auricles and the ventricles, the one on the right side of the heart being called the *tricuspid valve*, and the one on the left side the *mitral valve.* A number of fine, but strong, tendinous chords, called *chordæ tendineæ*, connect the edges and apices of these valves with column-like elevations of the fleshy substance of the walls of the ventricles, called *columnæ carneæ.*

The valves are so arranged that they present no obstacle to the free flow of blood from the auricles into the ventricles; but if any is forced the other way, it gets between the valve and the wall of the heart, and drives the valve backwards and upwards, thus forming a transverse partition between the auricle and ventricle, through which no fluid can pass.

Fig. 41.



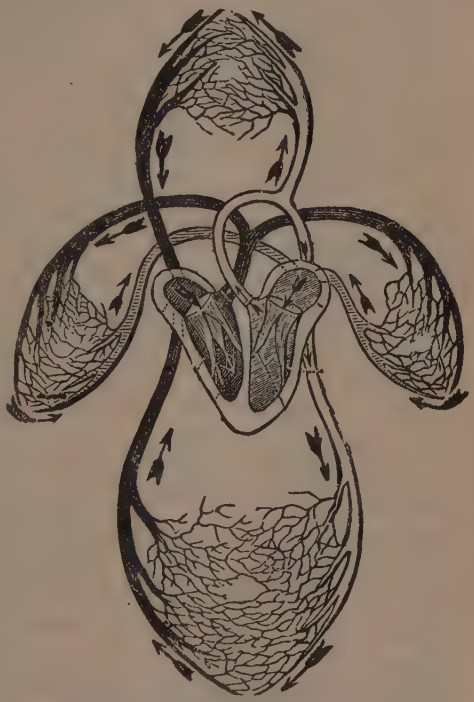
1. The descending vena cava. *2.* The ascending vena cava. *3.* The right auricle. *4.* The opening between the right auricle and the right ventricle. *5.* The right ventricle. *6.* The tricuspid valves. *7.* The pulmonary artery. *8, 8.* The branches of the pulmonary artery which pass to the right and the left lung. *9.* The semilunar valves of the pulmonary artery. *10.* The septum between the two ventricles of the heart. *11, 11.* The pulmonary veins. *12.* The left auricle. *13.* The opening between the left auricle and ventricle. *14.* The left ventricle. *15.* The mitral valves. *16, 16.* The aorta. *17.* The semilunar valves of the aorta.

At the base of the heart are given off two large arteries, one on the right side, which conveys the blood to the lungs, called the *pulmonary artery*, and one on the left side, which conveys the blood to the system in general, called the *aorta*. At the junction of each of these great vessels with its corresponding ventricle, is another valvular apparatus, consisting of three pouch-like valves, called the *semilunar valves*, from their resemblance, in shape, to a half-moon. Being placed on a level and meeting in the middle line, they entirely prevent the passage of any fluid which may be forced along the artery towards the heart, but, flapping back, they offer no obstruction to the free flow of blood from the ventricles into the arteries.

The *Arteries*, being always found empty after death, were supposed by the ancients, who were ignorant of the circulation of the blood, to be tubes containing air; hence their name, which is derived from a Greek word and signifies an *air-tube*. Arteries are the cylindrical tubes which carry blood to every part of the system. All the arteries, except the coronary

which supply the substance of the heart, arise from the two main trunks, the pulmonary artery and the aorta. They are of a yellowish-white color, and their inner surface is smooth. The arteries have three coats. (1.) The external coat, which is destitute of fat, and composed chiefly of cellular tissue, is very firm and elastic, and can readily be dissected from the middle coat. (2.) The middle, or fibrous coat, is thicker than the external, and composed of yellowish fibers, its chief property is contractility. (3.) The internal coat consists of a colorless, thin, transparent membrane, yet so strong that it can, it is thought, better resist a powerful pressure than either of the others. Arteries are very elastic as well as extensible, and their chief extensibility is in length. If an artery of a dead body be divided, although empty, its cylindrical form will be preserved.

Fig. 42.



A representation of the venous and arteries. circulation of the blood.

The *Veins* are the vessels through which the venous blood returns to the auricles of the heart. They are more numerous than the arteries, and originate from numerous capillary tubes, while the arteries are given off from main trunks. In some parts of the body, the veins correspond in number to the arteries; while in

others, there are two veins to every artery. The veins commence by minute roots in the capillaries, which are everywhere distributed through the body, and gradually increase in size, until they unite and become large trunks, conveying the dark blood to the heart. The veins, like the arteries, have three coats. The external, or cellular coat, resembles that of the arteries; the middle is fibrous, but thinner than the corresponding one of the arteries; and the internal coat is serous, and analogous to that of those vessels. The veins belong to the three following classes: (1.) The systemic veins, which bring the blood from different parts of the body and discharge it into the vena cava, by means of which it is conveyed to the heart; (2), the pulmonary veins, which bring the arterial, or bright red blood from the lungs and carry it to the left auricle; (3), the veins of the portal system, which originate in the capillaries of the abdominal organs, then converge into trunks and enter the liver, to branch off again into divisions and subdivisions of the minutest character.

The *Capillaries* form an extremely fine net-work, and are distributed to every part of the body. They vary in diameter from $\frac{1}{3500}$ to $\frac{1}{2000}$ of an inch. They are so universally prevalent throughout the skin, that the puncture of a needle would wound a large number of them. These vessels receive the blood and bring it into intimate contact with the tissues, which take from it the principal part of its oxygen and other elements, and give up to it carbonic acid and the other waste products resulting from the transformation of the tissues, which are transmitted through the veins to the heart, and thence by the arteries to the lungs and various excretory organs.

The blood from the system in general, except the lungs, is poured into the right auricle by two large veins, called the superior and the inferior *vena cava;* and that returning from the lungs is poured into the left auricle by the *pulmonary veins.*

During life the heart contracts rhythmically, the contractions commencing at the base, in each auricle, and extending towards the apex.

Now it follows, from the anatomical arrangement of this

organ, that when the auricles contract, the blood contained in them is forced through the auriculo-ventricular openings into the ventricles; the contractions then extending to the ventricles, in a wave-like manner, the great proportion of the blood, being prevented from re-entering the auricles by the tricuspid and mitral valves, is forced onward into the pulmonary artery from the right ventricle, and into the aorta from the left ventricle.

When the contents of the ventricles are suddenly forced into these great blood-vessels, a shock is given to the entire mass of fluid which they contain, and this shock is speedily propagated along their branches, being known at the wrist as the *pulse.*

On inspection, between the fifth and sixth ribs on the left side of the chest, a movement is perceptible, and, if the hand be applied, the impulse may be felt. This is known as the throbbing, or beating of the heart.

If the ear is placed over the region of the heart, certain sounds are heard, which recur with great regularity. First is heard a comparatively long, dull sound, then a short, sharp sound, then a pause, and then the long, dull sound again. The first sound is caused mainly by the tricuspid and mitral valves, and the second is the result of sudden closure of the semilunar valves.

No language can adequately describe the beauty of the circulatory system. The constant vital flow through the larger vessels, and the incessant activity of those so minute that they are almost imperceptible, fully illustrate the perfectness of the mechanism of the human body, and the wisdom and goodness of Him who is its author.

Experiments have shown that the small arteries may be directly influenced through the nervous system, which regulates their caliber by controlling the state of contraction of their muscular walls. The effect of this influence of the nervous system enables it to control the circulation over certain areas; and, notwithstanding the force of the heart and the state of the blood-vessels in general, to materially modify the circulation in different spots. Blushing, which is simply a local modification of the circulation, is effected in this way. Some emotion takes possession of the mind, and the action of the nerves, which ordinarily keep up a moderate contraction of

the muscular coats of the arteries, is lost, and the vessels relax and become distended with arterial blood, which is a warm and bright red fluid; thereupon a burning sensation is felt, and the skin grows red, the degree of the blush depending upon the intensity of the emotion.

The pallor produced by fright and by extreme anxiety, is purely the result of a local modification of the circulation, brought about by an over-stimulation of the nerves which supply the small arteries, causing them to contract, and to thus cut off more or less completely the supply of blood.

CHAPTER VIII.

PHYSIOLOGICAL ANATOMY.

THE ORGANS OF RESPIRATION.

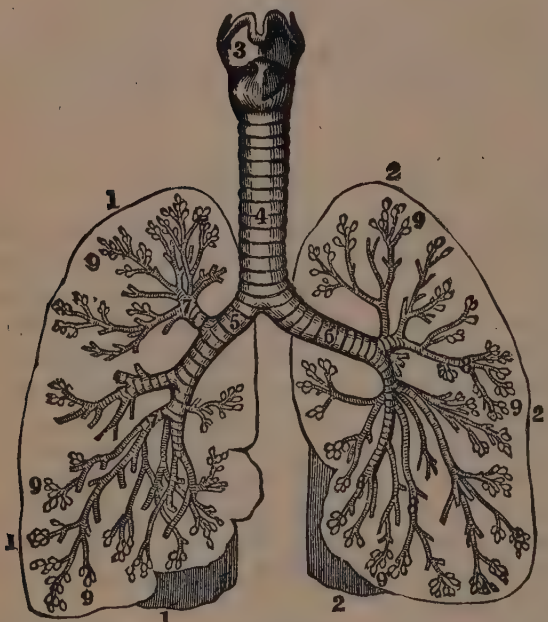
The Organs of Respiration are the Trachea, or windpipe, the Bronchia, formed by the subdivision of the trachea, and the Lungs, with their air-cells. The *Trachea* is a vertical tube situated between the lungs below, and a short quadrangular cavity above, called the *larynx*, which is part of the windpipe, and used for the purpose of modulating the voice in speaking or singing. In the adult, the trachea, in its unextended state, is from four and one-half to five inches in length, about one inch in diameter, and, like the larynx, is more fully developed in the male than in the female. It is a fibro-cartilaginous structure, and is composed of flattened rings, or segments of circles. It permits the free passage of air to and from the lungs.

The *Bronchia* are two tubes, or branches, one proceeding from the windpipe to each lung. Upon entering the lungs, they divide and subdivide until, finally, they terminate in small cells, called the *bronchial or air-cells*, which are of a membranous character.

The *Lungs* are irregular conical organs rounded at the apex, situated within the chest, and filling the greater part of it, since the heart is the only other organ which occupies much space in the thoracic cavity. The lungs are convex externally, and conform to the cavity of the chest, while the internal surface is concave for the accommodation of the heart. The size of the lungs depends upon the capacity of the chest. Their

color varies, being of a pinkish hue in childhood but of a gray, mottled appearance in the adult. They are termed the *right* and *left* lung. Each lung resembles a cone with its base resting upon the diaphragm, and its apex behind the collar-bone. The right lung is larger though shorter, than the left, not extending so low, and has three *lobes*, formed by deep fissures, or longitudinal divisions, while the left has but two lobes. Each lobe is also made up of numerous *lobules*, or small lobes, connected by cellular tissue, and these contain great numbers of cells. The lungs are abundantly supplied with blood-vessels, lymphatics, and nerves. The density of a lung depends upon the amount of air which it contains. Thus, experiment has shown that in a *fœtus* which has never breathed, the lungs are compact and will sink in water; but as soon as they become inflated with air, they spread over a larger surface, and are therefore more buoyant. Each lung is invested, as far as its root, with a membrane, called the *pleura*, which is then continuously extended to the cavity of the chest, thus performing the double office of lining it, and constituting a partition between the lungs. The part

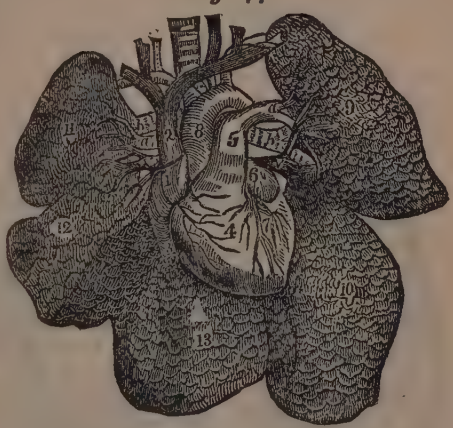
Fig. 43.



An ideal representation of the respiratory organs. *3.* The larynx. *4.* The trachea. *5, 6.* The bronchia, *9, 9, 9, 9.* Air-cells. *1, 1, 1, 2, 2, 2.* Outlines of the lungs.

of the membrane which forms this partition is termed the *mediastinum*. Inflammation of this membrane is called *pleurisy*. The lungs are held in position by the root, which is formed by the pulmonary arteries, veins, nerves, and the bronchial tubes. Respiration is the function by which the venous blood, conveyed to the lungs by the pulmonary artery, is converted into arterial blood. This is effected by the elimination of carbonic acid, which is expired or exhaled from the lungs, and by the absorption of oxygen from the air which is taken into the lungs, by the act of inspiration or inhalation. The act of expiration is performed chiefly by the elevation of the diaphragm and the descent of the ribs, and inspiration is principally effected by the descent of the diaphragm and the elevation of the ribs.

Fig. 44.



A representation of the heart and lungs. *4.* The heart. *5.* The pulmonary artery. *8.* Aorta. *9, 11.* Upper lobes of the lungs. *10, 13.* Lower lobes. *12.* Middle lobe of the right lung. *2.* Superior vena cava. *3.* Inferior vena cava.

When the muscles of some portions of the air-passages are relaxed, a peculiar vibration follows, known as snoring. Coughing and sneezing are sudden and spasmodic expiratory efforts, and generally involuntary. Sighing is a prolonged deep inspiration, followed by a rapid, and generally audible expiration. It is remarkable that laughing and sobbing, although indicating opposite states of the mind, are produced in very nearly the same manner. In hiccough, the contraction is more sudden and spasmodic than in laughing or sobbing. The quantity of oxygen consumed during sleep is estimated to be considerably less than that consumed during wakefulness.

It is difficult to estimate the amount of air taken into the

lungs at each inspiration, as the quantity varies according to the condition, size, and expansibility of the chest, but in ordinary breathing it is supposed to be from twenty to thirty cubic inches. The consumption of oxygen is greater when the temperature is low, and during digestion. All the respiratory movements, so far as they are independent of the will of the individual, are controlled by that part of the brain called the *medulla oblongata*. The respiratory, or breathing process, is not instituted for the benefit of man alone, for we find it both in the lower order of animals and in plant life. Nature is very economical in the arrangement of her plans, since the carbonic acid, which is useless to man, is indispensable to the existence of plants, and the oxygen, rejected by them, is appropriated to his use. In the lower order of animals, the respiratory act is similar to that of the higher types, though not so complex; for there are no organs of respiration, as the lungs and gills are called. Thus, the higher the animal type, the more complex its organism. The effect of air upon the color of the blood is very noticeable. If a quantity be drawn from the body, thus being brought into contact with the air, its color gradually changes to a brighter hue. There is a marked difference between the properties of the venous and the arterial blood.

Fig. 45.

View of the pulmonary circulation.

The venous blood is carried, as we have previously described, to the right side of the heart and to the lungs, where it is converted into arterial blood. It is now of uniform quality, ready to be distributed throughout the body, and capable of sustaining life and nourishing the tissues. Man breathes by means of lungs; but who can understand their wonderful mechanism, so perfect in all its parts? Though every organ is subservient to another, yet each has its own office to perform. The minute air-cells are for the aeration of the blood; the larger bronchial tubes ramify the lungs, and suffuse them with air; the trachea serves as a passage for the air to and from the lungs, while at its upper extremity is the larynx, which has been fitly called the organ of the human voice. At its extremity we find a sort of shield, called the *epiglottis*, the office of which is supposed to be to prevent the intrusion of foreign bodies.

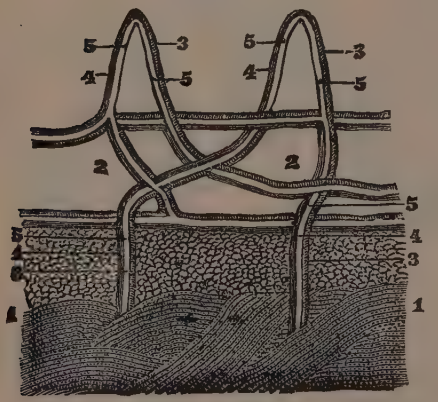
CHAPTER IX.

PHYSIOLOGICAL ANATOMY.

THE SKIN.

Through digestion and respiration, the blood is continually supplied with material for its renewal; and, while the nutritive constituents of the food are retained to promote the growth of the body, those which are useless or injurious are in various ways expelled. There are, perhaps, few parts of the body more actively concerned in this removal than the skin.

Fig. 46.



An ideal view of the papillæ. *1, 1.* Cutis vera. *2, 2.* Papillary layer. *3, 3.* Arteries of the papillæ. *4, 4.* Nerves of the papillæ. *5, 5.* Veins of the papillæ.

The skin is a membranous envelope covering the entire body. It consists of two layers, termed the Cutis Vera, or true skin, and the Epidermis, or cuticle. The *Cutis Vera* is composed of fibers similar to those of the cellular tissue. It consists of white and yellow fibers, which are more densely woven near the surface than deeper in the structure; the white give strength, the yellow

strength and elasticity combined. The true skin may be divided into two layers, differing in their characteristics, and termed respectively the superficial or papillary layer, and the deep or fibrous layer. Upon the external surface, are little conical prominences, known as *papillæ*. The papillæ are irregularly distributed over the body, in some parts being smaller and more numerous than in others, as on the finger-ends, where their summits are so intimately connected as to form a tolerably smooth surface. It is owing to their perfect development, that the finger-tips are adapted to receive the most delicate impressions of touch. Although every part of the skin is sensitive, yet the papillæ are extremely so, for they are the principal means through which the impressions of objects are communicated. Each papilla not only contains a minute vein and artery, but it also incloses a loop of sensitive nerves. When the body is exposed to cold, these papillæ can be more distinctly seen in the form of prominences, commonly known as "goose-pimples."

Fig. 47.

A section of the skin, showing its arteries and veins. *A, A.* Arterial branches. *B, B.* Capillaries in which the branches terminate. *C.* The venous trunk into which the blood from the capillaries flows.

The internal, or fibrous layer of the skin, contains numerous depressions, each of which furnishes a receptacle for fat. While the skin is supplied with a complete net-work of arteries, veins, and nerves, which make it sensitive to the slightest touch, it also contains numerous lymphatic vessels, so minute that they are invisible to the naked eye.

Among the agents adapted for expelling the excretions from the system, few surpass the *Sudoriferous Glands.* These are minute organs which wind in and out over the whole extent of the true skin, and secrete the perspiration. Though much

of it passes off as insensible transpiration, yet it often accumulates in drops of sweat, during long-continued exercise or exposure to a high temperature. The office of the perspiration is two-fold. It removes noxious matter from the system, and diminishes animal heat, and thereby equalizes the temperature of the body. It also renders the skin soft and pliable, thus better adapting it to the movements of the muscles. The *Sebaceous Glands*, which are placed in the true skin, are less abundant where the sudoriferous glands are most numerous, and *vice versa*. Here, as elsewhere, nature acts with systematic and intelligent design. The perspiratory glands are distributed where they are most needed, —in the eyelids, serving as lubricators; in the ear passages, to produce the *cerumen*, or wax, which prevents the intrusion of small insects; and in the scalp, to supply the hair with its natural pomatum.

Fig. 48.

A perspiratory gland, highly magnified. *1, 1.* The gland. *2, 2.* Excretory ducts uniting to form a tube which tortuously perforates the cuticle at *3*, and opens obliquely on its surface at *4*.

The *Epidermis*, or *Cuticle*, so called because it is *placed upon the skin*, is the outer layer of the skin. Since it is entirely destitute of nerves and blood-vessels, it is not sensitive. Like the cutis vera, it has two surfaces composed of layers. The internal, or *Rete Mucosum*, which is made up chiefly of pigment cells, is adapted to the irregularities of the cutis vera, and sends prolongations into all its glandular follicles. The external surface, or epidermis proper, is elastic, destitute of coloring matter, and consists of mere

horny scales. As soon as dry, they are removed in the form of scurf, and replaced by new ones from the cutis vera. These scales may be removed by a wet-sheet pack, or by friction. The cuticle is constantly undergoing renewal. This layer serves to cover and protect the nervous tissue of the true skin beneath. We may here observe that the cuticle contains the pigment for coloring the skin. In dark races, as the negro, the cuticle is very thick and filled with black pigment. The radiation of animal heat is dependent upon the thickness and color of this cuticle. Thus, in the dark races, the pigment cells are most numerous, and in proportion as the skin is dark or fair do we find these cells in greater or lesser abundance. The skin of the Albino is of pearly whiteness, devoid even of the pink or brown tint which that of the European always possesses. This peculiarity must be attributed to the absence of pigment cells,

Fig. 49.

A representation of oil-tubes from the scalp and nose.

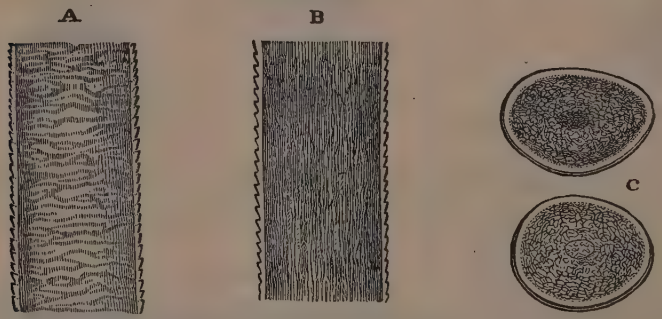
Fig. 50.

Anatomy of the skin. *5, 5.* Cutis vera (true skin). *4, 4.* Nervous tissue. *3, 3.* Sensitive layer in which are seen the nerves. *2, 2.* The layer containing pigment cells. *1, 1.* Epidermis (cuticle).

which, when present, always present a more or less dark color. The theory that *climate* alone is capable of producing all these diversities is simply absurd. The Esquimaux, who live in Greenland and the arctic regions of America, are remarkable for the darkness of their complexion. Humboldt remarks that the American tribes of the tropical regions have no darker skin than the mountaineers of the temperate zone. Climate may *modify* the complexion, but it cannot *make* it.

Hairs are horny appendages of the skin, and, with the exception of the hands, the soles of the feet, the backs of the

Fig. 51.



Structure of the human hair. *A.* External surface of the shaft, showing the transverse striæ and jagged boundary, caused by the imbrications of the scaly cortex. *B.* Longitudinal section of the shaft, showing the fibrous character of the medullary substance, and the arrangement of the pigmentary matter. *C.* Transverse sections, showing the distinction between the cortical and medullary substances, and the central collection of pigmentary matter, sometimes found in the latter. Magnified 310 diameters.

fingers and toes, between the last joint and the nail, and the upper eyelids, are distributed more or less abundantly over every part of the surface of the body. Over the greater part of the surface the hairs are very minute, and in some places are not actually apparent above the level of the skin; but the hair of the head, when permitted to reach its full growth, attains a length of from twenty inches to a yard, and, in rare instances, even six feet. A hair may be divided into a middle portion, or *shaft*, and two extremities; a peripheral extremity, called the *point;* and a central extremity, inclosed within

the hair-sac, or follicle, termed the *root*. The root is somewhat greater in diameter than the shaft, and cylindrical in form, while its lower part expands into an oval mass, called the *bulb*. The shaft of the hair is not often perfectly cylindrical, but is more or less flattened, which circumstance gives rise to waving and curling hair; and, when the flattening is spiral in direction, the curling will be very great. A hair is composed of three different layers of cell-tissues: a loose, cellulated substance, which occupies its center, and constitutes the *medulla*, or pith; the fibrous tissue, which incloses the medulla, and forms the chief bulk of the hair; and a thin layer, which envelops this fibrous structure, and forms the smooth surface of the hair. The medulla is absent in the downy hairs, but in the coarser class it is always present, especially in white hair. The color of hair is due partly to the granules and partly to an intergranular substance, which occupies the interstices of the granules and the fibers. The quantity of hair varies according to the proximity and condition of the follicles. The average number of hairs of the head may be stated at 1,000 in a superficial square inch; and, as the surface of the scalp has an area of about one hundred and twenty superficial square inches, the average number of hairs on the entire head is 120,000. The hair possesses great durability, as is evinced by its endurance of chemical processes, and by its discovery, in the tombs of mummies more than two thousand years old. The hair is remarkable for its elasticity and strength. Hair is found to differ materially from horn in its chemical composition. According to Vauquelin, its constituents are animal matter, a greenish-black oil, a white, concrete oil, phosphate of lime, a trace of carbonate of lime, oxide of manganese, iron, sulphur, and silex. Red hair contains a reddish oil, a large proportion of sulphur, and a small quantity of iron. White hair contains a white oil, and phosphate of magnesia. It has been supposed that hair grows after death, but this theory was probably due to the lengthening of the hair by the absorption of moisture from the body or atmosphere.

The *nails* constitute another class of appendages of the skin. They consist of thin plates of horny tissue, having a

root, a body, and a free extremity. The root, as well as the lateral portion, is implanted in the skin, and has a thin margin which is received into a groove of the true skin. The under surface is furrowed, while the upper is comparatively smooth. The nails grow in the same manner as the cuticle.

CHAPTER X.

PHYSIOLOGICAL ANATOMY.

SECRETION.

The term *Secretion*, in its broadest sense, is applied to that process by which substances are separated from the blood, either for the reparation of the tissues or for excretion. In the animal kingdom this process is less complicated than in vegetables. In the former it is really a *separation* of nutritive material from the blood. The process, when effected for the removal of effete matter, is, in a measure, chemical, and accordingly the change is greater.

Three elementary constituents are observed in secretory organs: the cells, a basement membrane, and the blood-vessels. Obviously, the most *essential* part is the *cell*.

The physical condition necessary for the healthy action of the secretory organs is a copious supply of blood, in which the nutritive materials are abundant. The nervous system also influences the process of secretion to a great extent. Intense emotion will produce tears, and the sight of some favorite fruit will generally increase the flow of saliva.

The process of secretion depends upon the anatomical and chemical constitution of the cell-tissues. The principal secretions are (1), Perspiration; (2), Tears; (3), Sebaceous matter; (4), Mucus; (5), Saliva; (6), Gastric juice; (7), Intestinal juice; (8), Pancreatic juice; (9), Bile; (10), Milk.

Perspiration is a watery fluid secreted in minute glands, which are situated in every part of the skin, but are more numerous on the anterior surfaces of the body. Long thread-like tubes, only $\frac{1}{400}$ of an inch in diameter, lined with

epithelium, penetrate the skin, and terminate in rounded coils, enveloped by a net-work of capillaries, which supply the secretory glands with blood. It is estimated by Krause that the entire number of perspiratory glands is two million three hundred and eighty-one thousand two hundred and forty-eight, and the length of each glandular coil being $\frac{1}{16}$ of an inch, we may estimate the length of tubing to be not less than two miles and a third. This secretion has a specific gravity of 1003.5, and, according to Dr. Dalton, is composed of

Water,	995.50
Chloride of Sodium,	2.23
Chloride of Potassium,	0.24
Sulphate of Soda and Potassa,	0.01
Salts of organic acids, with Soda and Potassa,	2.02
	1000.00

Traces of organic matter, mingled with a free volatile acid, are also found in the perspiration. It is the acid which imparts to this secretion its peculiar odor, and acid reaction. The process of its secretion is continuous, but, like all bodily functions, it is subject to influences which augment or retard its activity. If, as is usually the case when the body is in a state of repose, evaporation prevents its appearance in the *liquid* form, it is called *invisible* or *insensible perspiration.* When there is unusual muscular activity, it collects upon the skin, and is known as *sensible perspiration.* This secretion performs an important office in the animal economy, by maintaining the internal temperature at about 100° Fahr. Even in the Arctic regions, where the explorer has to adapt himself to a temperature of 40° to 80° below zero, the generation of heat in the body prevents the internal temperature from falling below this standard. On the contrary, if the circulation is quickened by muscular exertion, the warmer blood flowing from the internal organs into the capillaries, raises the temperature of the skin, secretion is augmented, the moisture exudes from the pores, and perceptible evaporation begins. A large portion of the animal heat is thrown off in this process, and the temperature of the skin is reduced. A very warm, dry atmosphere can be borne with impunity, but if moisture is

introduced, evaporation ceases, and the life of the animal is endangered. Persons have been known to remain in a temperature of about 300° Fahr. for some minutes without unpleasant effects. Three conditions may be assigned as effective causes in retarding or augmenting this cutaneous secretion, variations in the temperature of the atmosphere, muscular activity, and influences which affect the nerves. The emotions exert a remarkable influence upon the action of the perspiratory glands. Intense fear causes great drops of perspiration to accumulate on the skin, while the salivary glands remain inactive.

Tears. The lachrymal glands are small lobular organs, situated at the outer and upper orbit of the eye, and have from six to eight ducts, which open upon the conjunctiva, between the eyelid and its inner fold. This secretion is an alkaline, watery fluid. According to Dr. Dalton, its composition is as follows:

Water,	982.0
Albuminous matter,	5.0
Chloride of Sodium,	13.0
Mineral Salts, a trace,	
	1000.0

The function of this secretion is to preserve the brilliancy of the eye. The tears are spread over this organ by the reflex movement of the eyelid, called winking, and then collected in the *puncta lachrymalia* and discharged into the nasal passage. This process is constant during life. The effect of its repression is seen in the dim appearance of the eye after death. Grief or excessive laughter usually excite these glands until there is an overflow.

Sebaceous Matter. Three varieties of this secretion are found in the body. A product of the sebaceous glands of the skin is found in those parts of the body which are covered with hairs; also, on the face and the external surface of the organs of generation. The *sebaceous glands* consist of a group of flask-shaped cavities, opening into a common excretory duct. Their secretion serves to lubricate the hair and soften the skin. The *ceruminous glands* of the *external auditory meatus*, or

outer opening of the ear, are long tubes terminating in a glandular coil, within which is secreted the glutinous matter of the ear. This secretion serves the double purpose of moistening the outer surface of the membrana tympani, or ear-drum, and, by its strong odor, of preventing the intrusion of insects. The *Meibomian glands* are arranged in the form of clusters along the excretory duct, which opens just behind the roots of the eyelashes. The oily nature of this secretion prevents the tears, when not stimulated by emotion, from overflowing the lachrymal canal.

Mucus. The mucous membranes are provided with minute glands which secrete a viscid, gelatinous matter, called *mucus.* The peculiar animal matter which it contains is termed *mucosin.* These glands are most numerous in the Pharynx, Esophagus, Trachea, Bronchia, Vagina and Urethra. They consist of a group of secreting sacs, terminating at one extremity in a closed tube, while the other opens into a common duct. The mucus varies in composition in different parts of the body; but in all, it contains a small portion of insoluble animal matter. Its functions are threefold. It lubricates the membranes, prevents their injury, and facilitates the passage of food through the alimentary canal.

Saliva. This term is given to the first of the digestive fluids, which is secreted in the glands of the mouth. It is a viscid, alkaline liquid, with a specific gravity of about 1005. If allowed to stand, a whitish precipitate is formed. Examinations with the microscope show it to be composed of minute, granular cells and oil globules, mingled with numerous scales of epithelium. According to Bidder and Schmidt, the composition of saliva is as follows:

Water,	995.16
Organic matter,	1.34
Sulpho-cyanide of Potassium,	0.06
Phosphates of Sodium, Calcium and Magnesium,	.98
Chlorides of Sodium and Potassium,	.84
Mixture of Epithelium,	1.62
	1000.00

Two kinds of organic matter are present in the saliva; one, termed *ptyalin,* imparts to the saliva its viscidity, and is

obtained from the secretions of the parotid, submaxillary and sublingual glands; another, which is not glutinous, is distinguished by the property of coagulating when subjected to heat. The saliva is composed of four elementary secretions, derived respectively, from the mucous follicles of the mouth, and the parotid, the submaxillary, and the sublingual glands. The process of its secretion is constant, but is greatly augmented by the contact of food with the lining membrane. The saliva serves to moisten the triturated food, facilitate its passage, and has the property of converting starch into sugar; but the latter quality is counteracted by the action of the gastric juice of the stomach.

Gastric Juice. The minute tubes, or follicles, situated in the mucous membrane of the stomach, secrete a colorless, acid liquid, termed the gastric juice. This fluid appears to consist of little more than water, containing a few saline matters in solution, and a small quantity of free hydrochloric acid, which gives it an acid reaction. In addition to these, however, it contains a small quantity of a peculiar organic substance, termed *pepsin*, which in chemical composition, is very similar to ptyalin, although it is very different in its effects. When food is introduced into the stomach, the peristaltic contractions of that organ roll it about, and mingle it with the gastric juice, which disintegrates the connective tissue, and converts the albuminous portions into the substance called chyme, which is about the consistency of pea-soup, and which is readily absorbed through the animal membranes into the blood of the delicate and numerous vessels of the stomach, whence it is conveyed to the portal vein and to the liver. The secretion of the gastric juice is influenced by nervous conditions. Excess of joy or grief effectually retard or even arrest its flow.

Intestinal Juice. In the small intestine, a secretion is found which is termed the *intestinal juice.* It is the product of two classes of glands situated in the mucous membrane, and termed respectively, the *follicles of Lieberkuhn* and the *glands of Brunner.* The former consist of numerous small tubes, lined with epithelium, which secrete by far the greater portion of this fluid. The latter are clusters of round follicles

opening into a common excretory duct. These sacs are composed of delicate, membranous tissue, having numerous nuclei on their walls. The difficulty of obtaining this juice for experiment is obvious, and therefore its chemical composition and physical properties are not known. The intestinal juice resembles the secretion of the mucous follicles of the mouth, being colorless, vitreous in appearance, and having an alkaline reaction.

Pancreatic Juice. This is a colorless fluid, secreted in a lobular gland which is situated behind the stomach, and runs transversely from the spleen across the vertebral column to the duodenum. The most important constituent of the pancreatic juice is an organic substance, termed *pancreatin.*

The Bile. The blood which is collected by the veins of the stomach, pancreas, spleen, and intestines, is discharged into a large trunk called the portal vein, which enters the liver. This organ also receives arterial blood from a vessel called the *hepatic artery,* which is given off from the aorta below the diaphragm. If the branches of the portal vein and hepatic artery be traced into the substance of the liver, they will be found to accompany one another, and to subdivide, becoming smaller and smaller. Finally, the portal vein and hepatic artery will be found to terminate in capillaries which permeate the smallest perceptible subdivisions of the liver substance, which are polygonal masses of not more than one-tenth of an inch in diameter, called the *lobules.* Every lobule rests upon one of the ramifications of a great vessel termed the *hepatic vein,* which empties into the inferior vena cava. There is also a vessel termed the *hepatic duct* leading from the liver, the minute subdivisions of which penetrate every portion of the substance of that organ. Connected with the hepatic duct, is the duct of a large oval sac, called the *gall-bladder.*

Each lobule of the liver is composed of minute cellular bodies known as the *hepatic cells.* It is supposed that in these cells the blood is deprived of certain materials which are converted into bile. This secretion is a glutinous fluid, varying in color from a dark golden brown to a bright yellow, has a specific gravity ranging from 1018 to 1036, and a

slightly alkaline reaction. When agitated, it has a frothy appearance. Physiologists have experienced much difficulty in studying the character of this secretion from the instability of its constituents when subjected to chemical examination.

Biliverdin is an organic substance peculiar to the bile, which imparts to that secretion its color. When this constituent is re-absorbed by the blood and circulates through the tissues, the skin assumes a bright yellow hue, causing what is known as the jaundice. *Cholesterin* is an inflammable crystallizable substance soluble in alcohol or ether. It is found in the spleen and all the nervous tissues. It is highly probable that it exists in the blood, in some state or combination, and assumes a crystalline form only when acted upon by other substances or elements. Two other constituents, more important than either of the above, are collectively termed *biliary salts.* These elements were discovered in 1848, by Strecker, who termed them *glycocholate* and *taurocholate of soda.* Both are crystalline, resinous substances, and, although resembling each other in many respects, the chemist may distinguish them by their reaction, for both yield a precipitate if treated with subacetate of lead, but only the glycocholate will give a precipitate with acetate of lead. In testing for biliary substances, the most satisfactory method is the one proposed by Pettenkoffer. A solution of cane-sugar, one part of sugar to four parts of water, is mixed with the suspected substance. Dilute sulphuric acid is then added until a white precipitate falls, which is re-dissolved in an excess of the acid. On the addition of more sulphuric acid, it becomes opalescent, and passes through the successive hues of scarlet, lake, and a rich purple. Careful experiments have proved

Fig. 52.

Section of the Liver, showing the ramifications of the portal vein. *1.* Twig of portal vein. *2*, *2*,' *2*," *2*."' Interlobular vein. *3*, 3,' *3*." Lobules.

that it is a *constant* secretion; but its flow is more abundant during digestion. During the passage through the intestines it disappears. It is not eliminated, and Pettenkoffer's test has failed to detect its existence in the portal vein. These facts lead physiologists to the conclusion, that it undergoes some transformation in the intestines and is re-absorbed.

After digestion has been going on in the stomach for some time, the semi-digested food, in the form of chyme, begins to pass through the *pyloric orifice* of the stomach into the duodenum, or upper portion of the small intestine. Here it encounters the intestinal juice, pancreatic juice, and the bile, the secretion of all of which is stimulated by the presence of food in the alimentary tract. These fluids, mingling with the chyme, give it an alkaline reaction, and convert it into chyle. The transformation of starch into sugar, which is almost, if not entirely, suspended while the food remains in the stomach, owing to the acidity of the chyme, is resumed in the duodenum, the acid of the chyme, being neutralized by the alkaline secretions there encountered.

Late researches have demonstrated that the pancreatic juice exerts a powerful effect on albuminous matters, not unlike that of the gastric juice.

Thus, it seems that while in the mouth only starchy, and while in the stomach only albuminous substances are digested, in the small intestine all kinds of food materials, starchy, albuminoid, fatty and mineral, are either completely dissolved, or minutely subdivided, and so prepared that they may be readily absorbed through the animal membranes into the vessels.

Milk. The milk is a white, opaque fluid, secreted in the lacteal glands of the female, in the mammalia. These glands consist of numerous follicles, grouped around an excretory duct, which unites with similar ducts coming from other lobules. By successive unions, they form large branches, termed the *lactiferous ducts*, which open by ten to fourteen minute orifices on the extremity of the nipple. The most important constituent of milk is *casein;* it also contains oily and saccharine substances. This secretion, more than any other, is influenced by nervous conditions. A mother's bosom will

fill with milk at the thought of her infant child. Milk is sometimes poisoned by a fit of ill-temper, and the infant made sick and occasionally thrown into convulsions, which in some instances prove fatal. Sir Astley Cooper mentions two cases in which terror instantaneously and permanently arrested this secretion. It is also affected by the food and drink. Malt liquors and other mild alcoholic beverages temporarily increase the amount of the secretion, and may, in rare instances, have a beneficial effect upon the mother. They sometimes affect the child, however, and their use is not to be recommended unless the mother is extremely debilitated, and there is a deficiency of milk.

CHAPTER XI.

PHYSIOLOGICAL ANATOMY.

EXCRETION.

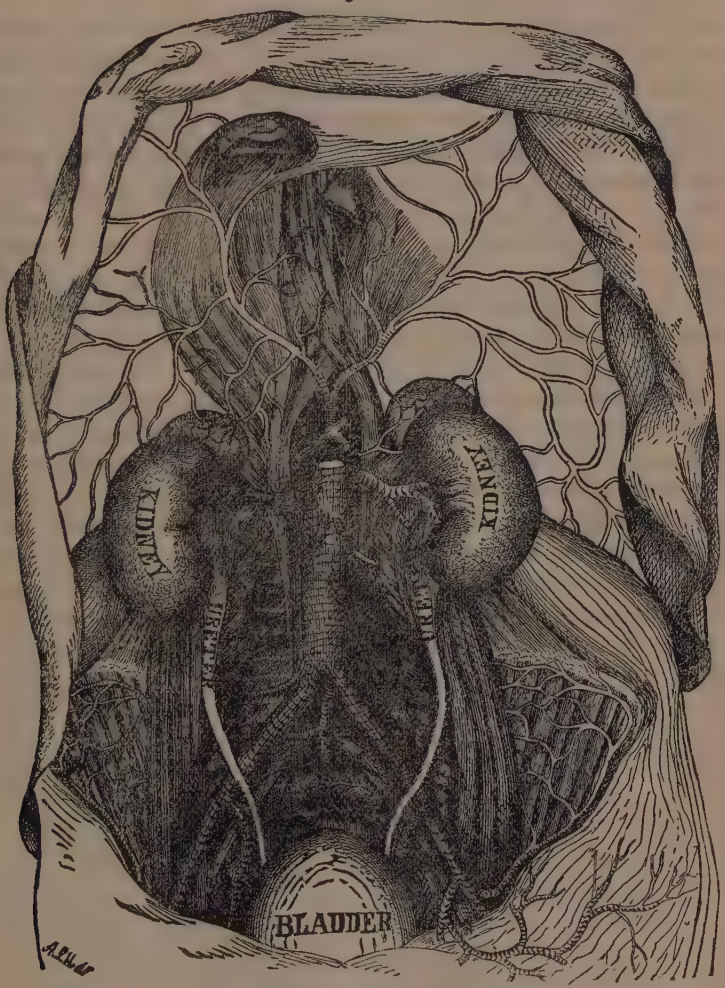
The products resulting from the waste of the tissues are constantly being poured into the blood, and, as we have seen, the blood being everywhere full of corpuscles, which, like all living things, die and decay, the products of their decomposition accumulate in every part of the circulatory system. Hence, if the blood is to be kept pure, the waste materials incessantly poured into this fluid, or generated in it, must be as continually removed, or excreted. The principal sets of organs concerned in effecting the separation of excrementitious substances from the blood are the lungs, the skin, and the kidneys.

The elimination of carbonic acid through the lungs has already been described on page 66, and the excretory function of the skin on page 70.

The kidneys are two bean-shaped organs, placed at the back of the abdominal cavity, in the region of the loins, one on each side of the spine. The convex side of each kidney is directed outwards, and the concave side is turned inwards towards the spine. From the middle of the concave side, which is termed the *hilus*, a long tube of small caliber, called the *ureter*, proceeds to the bladder. The latter organ is an oval bag, situated in the pelvic cavity. It is composed principally of elastic muscular fibers, and is lined internally with mucous membrane, and coated externally with a layer of the *peritoneum*, the serous membrane which lines the abdominal

and pelvic cavities. The ureters enter the bladder through its posterior and lower wall, at some little distance from each

Fig. 53.



View of the kidneys, ureters, and bladder.

other. The openings through which the ureters enter the bladder are oblique, hence it is much easier for the secretion

of the kidneys to pass from the ureters into the bladder than for it to get the other way. Leading from the bladder to the exterior of the body is a tube, called the *urethra*, through which the urine is voided.

The excretion of the kidneys, termed the *urine*, is an amber-colored or straw-colored fluid, naturally having a slightly acid reaction, and a specific gravity ranging from 1,015 to 1,025 Its principal constituents are *urea* and *uric acid*, together with various other animal matters of less importance, and saline substances, held in solution in a proportionately large amount of water. The composition of the urine and the quantity excreted vary considerably, being influenced by the moisture and temperature of the atmosphere, by the character of the food consumed, and by the empty or replete condition of the alimentary tract. On an average a healthy man secretes about fifty ounces of urine in the twenty-four hours. This quantity usually holds in solution about one ounce of urea, and ten or twelve grains of uric acid. In the amount of other animal matters, and saline substances, there is great variation, the quantity of these ranging from a quarter of an ounce to an ounce. The principal saline substances are common salt, the sulphates and phosphates of potassium, sodium, calcium, and magnesium. In addition to the animal and the saline matters, the urine also contains a small quantity of carbonic acid, oxygen and nitrogen.

CHAPTER XII.

PHYSIOLOGICAL ANATOMY.

THE NERVOUS SYSTEM.

Hitherto, we have only considered the anatomy and functions of the organs employed in Digestion, Absorption, Circulation, Respiration, Secretion and Excretion. We have found the vital process of nutrition to be, in all its essential features, a result of physical and chemical forces; in each instance we have presupposed the existence and activity of the nerves. There is not an inch of bodily tissue into which their delicate filaments do not penetrate, and form a multitude of conductors, over which are sent the impulses of motion and sensation.

Two elements, *nerve-fibers* and *ganglionic corpuscles*, enter into the composition of nervous tissue. Ordinary nerve-fibers in the living subject, or when fresh, are cylindrical-shaped filaments of a clear, but somewhat oily appearance. But soon after death the matter contained in the fiber coagulates, and then the fiber is seen to consist of an extremely delicate, structureless, outer membrane, which forms a tube through the center of which runs the *axis-cylinder*. Interposed between the axis-cylinder and this tube, there is a fluid, containing a considerable quantity of fatty matter, from which is deposited a highly refracting substance which lines the tube. There are two sets of nerve-fibers, those which transmit sensory impulses, called *afferent* or *sensory* nerves, and those which transmit motor impulses, called *efferent* or *motor* nerves. The fibers when collected in bundles are termed nerve trunks. All the larger nerve-fibers lie side by side in the nerve-trunks, and are bound together by delicate

Fig. 54.

The Nervous System.

connective tissue, enclosed in a sheath of the same material, termed the *neurilemma*. The nerve-fibers in the trunks of the nerves remain perfectly distinct and disconnected from one another, and seldom, or never, divide throughout their entire length. However, where the nerves enter the nerve-centers, and near their outer terminations, the nerve-fibres often divide into branches, or at least gradually diminish in size, until, finally, the axis-cylinder, and the sheath with its fluid contents, are no longer distinguishable. The investing membrane is continuous from the origin to the termination of the nerve-trunk.

In the brain and spinal cord the nerve-fibers often terminate in minute masses of a gray or ash-colored granular substance, termed *ganglia*, or *ganglionic corpuscles*.

The ganglia are cellular corpuscles of irregular form, and possess fibrous appendages, which serve to connect them with one another. These ganglia form the cortical covering of the brain, and are also found in the interior of the spinal cord. According to Kölliker, the larger of these nerve-cells measure only $\frac{1}{200}$ of an inch in diameter. The brain is chiefly composed of nervous ganglia.

Fig. 55.

Division of a nerve, showing a portion of a nervous trunk (*a*) and separation of its filaments (*b*, *c*, *d*, *e*.)

Nerves are classified with reference to their origin, as *cerebral*—those originating in the brain, and *spinal*—those originating in the spinal cord.

There are two sets of nerves and nerve-centers, which are intimately connected, but which can be more conveniently studied apart. These are the *cerebro-spinal* system, consisting of the cerebro-spinal axis, and the cerebral and spinal nerves; and the *sympathetic* system, consisting of the chain of sympathetic ganglia, the nerves which they give off, and the nervous trunks which connect them with one another and with the cerebro-spinal nerves.

THE CEREBRO-SPINAL SYSTEM.

The Cerebro-Spinal Axis consists of the brain and spinal cord. It lies in the cavities of the cranium and

the spinal column. These cavities are lined with a very tough fibrous membrane, termed the *dura mater*, which serves as the periosteum of the bones which enter into the formation of these parts. The surface of the brain and spinal cord is closely invested with an extremely vascular, areolar tissue, called the *pia mater*. The numerous blood-vessels which supply these organs traverse the pia mater for some distance, and, where they pass into the substance of the brain or spinal cord, the fibrous tissue of this membrane accompanies them to a greater or less depth. The inner surface of the dura mater and the outer surface of the pia mater are covered with an extremely thin, serous membrane, which is termed the *arachnoid* membrane. Thus, one layer of the arachnoid envelopes the brain and spinal cord, and the other lines the dura mater. As the layers become continuous with each other at different points, the arachnoid, like the pericardium, forms a shut sac, and, like other serous membranes, it secretes a fluid, known as the *arachnoid fluid*. The space between the internal and the external layers of the arachnoid membrane of the brain is much smaller than that enclosed by the corresponding layers of the arachnoid membrane of the spinal column.

Fig. 56.

Cross-section of spinal cord.

The Spinal Cord is a column of soft, grayish-white substance, extending from the top of the spinal canal, where it is continuous with the brain, to about an inch below the small of the back, where it tapers off into a filament. From this nerve are distributed fibers and filaments to the muscles and integument of at least nine-tenths of the body.

The spinal cord is divided in front through the middle nearly as far as its center, by a deep fissure, called the *anterior fissure*, and behind, in a similar manner, by the posterior *fissure*. Each of these fissures is lined with the pia mater, which also supports the blood-vessels which supply

the spinal cord with blood. Consequently, the substance of the two halves of the cord is only connected by a narrow isthmus, or bridge, perforated by a minute tube, which is termed the *central canal* of the spinal cord.

Each half of the spinal cord is divided lengthwise into three nearly equal parts, which are termed the anterior, lateral, and posterior columns, by the lines which join together two parallel series of bundles of nervous filaments, which compose the roots of the spinal nerves. The roots of those nerves, which are found along that line nearest the posterior surface of the cord, are termed the posterior roots; those which spring from the other line are known as the anterior roots.

Several of these anterior and posterior roots, situated at about the same height on opposite sides of the spinal cord, converge and combine into what are called the *anterior* and *posterior bundles*; then two bundles, anterior and posterior, unite and form the trunk of a spinal nerve.

The nerve trunks make their way out of the spinal canal through apertures between the vertebra, called the *inter-vertebral foramina* and then divide into numerous branches, their ramifications extending principally to the muscles and the skin. There are thirty-one pairs of spinal nerves, eight of which are termed cervical, twelve dorsal, five lumbar, and six sacral, with reference to that part of the cord from which they originate.

When the cord is divided into transverse sections, it is found that each half is composed of two kinds of matter, a white substance on the outside, and a grayish substance in the interior. The *gray matter*, as it is termed, lies in the form of an irregular crescent, with one end considerably larger than the other, and having the concave side turned outwards. The ends of the crescent are termed the *horns*, or *cornua*, the one pointing forward being called the *anterior cornu*, the other one the *posterior cornu*. The convex sides of these cornua approach each other and are united by the bridge, which contains the central canal.

There is a marked difference in the structure of the gray and the white matter. The white matter is composed entirely of nerve fibers, held together by a framework of connective

tissue. The gray matter contains a great number of ganglionic corpuscles, or nerve-cells, in addition to the nerve-fibers.

When the nerve-trunks are irritated in any manner, whether by pinching, burning, or the application of electricity, all the muscles which are supplied with branches from this nerve-trunk immediately contract, and pain is experienced, the severity of which depends upon the degree of the irritation; and the pain is attributed to that portion of the body to which the filaments of the nerve-trunk are distributed. Thus, persons who have lost limbs often complain in cold weather of an uneasiness or pain, which they locate in the fingers or toes of the limb which has been amputated, and which is caused by the cold producing an irritation of the nerve-trunk, the filaments, or fibers of which, supplied the fingers or toes of the lost member.

On the other hand, if the anterior bundle of nerve-fibers given off from the spinal cord is irritated in precisely the same way, only half of these effects is produced. All the muscles which are supplied with fibers from that trunk contract, but no pain is experienced. Conversely, if the posterior bundle of nerve-fibers is irritated, none of the muscles to which the filaments of the nerve are distributed contract, but pain is felt throughout the entire region to which these filaments are extended. It is evident, from these facts, that the fibers composing the posterior bundles of nerve-roots only transmit sensory impulses, and the filaments composing the anterior nerve-roots only transmit motor impulses; accordingly, they are termed respectively the *sensory* and the *motor* nerve-roots. This is illustrated by the fact that when the posterior root of a spinal nerve is divided, all sensation in the parts to which the filaments of that nerve are distributed is lost, but the power of voluntary movement of the muscles remains. On the other hand, if the anterior roots are severed, the power of voluntary motion of the muscles is lost, but sensation remains.

It appears from these experiments, that, when a nerve is irritated, a change in the arrangement of its molecules takes place, which is transmitted along the nerve-fibers. But, if the nerve-trunks are divided, or compressed tightly at any point

between the portion irritated, and the muscle or nerve-centre, the effect ceases immediately, in a manner similar to that in which a message is stopped by the cutting of a telegraph wire. When the nerves distributed to a limb are subjected to a pressure sufficient to destroy the molecular continuity of their filaments, it "goes to sleep," as we term it. The power of transmitting sensory and motor impulses is lost, and only returns gradually, as the molecular continuity is restored.

From what has been said, it is plain that a sensory nerve is one which conveys a sensory impulse from the peripheral or outer part of a nerve to the spinal cord or brain, and which is, therefore, termed *afferent*; and that a motor nerve is one which transmits an impulse from the nerve centre, or is *efferent*. No difference in structure, or in chemical or physical composition, can be discerned between the afferent and the efferent nerves. A certain period of time is required for the transmission of all impulses. The speed with which an impulse travels has been found to be comparatively slow, being even less than that of sound, which is 1,120 feet per second.

The experiments heretofore related have been confined solely to the nerves. We may now proceed to the consideration of what takes place when the spinal cord is operated upon in a similar way. If the cord be divided with a knife or other instrument, all parts of the body supplied with nerves given off below the division will become paralyzed and insensible, while all parts of the body supplied with nerves from the spinal cord *above* the division will retain their sensibility and power of motion. If, however, only the posterior half of the spinal cord is divided, or destroyed, there is loss of sensation alone; and, if the anterior portion is cut in two, and the continuity of the posterior part is left undisturbed, there is loss of voluntary motion of the lower limbs, but sensation remains.

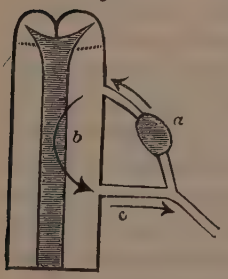
Reflex Action of the Spinal Cord. In relation to the brain, the spinal cord is a great mixed motor and sensory nerve, but, in addition to this, it is also a distinct nervous centre, in which originate and terminate all those involuntary impulses which exert so potent an influence in the preservation and economy of the body. That peculiar power of the cord, by which it is enabled to convert sensory into motor impulses,

is that which distinguishes it, as a central organ, from a nerve, and is called *reflex action.*

The gray matter, and not the white, is the part of the cord which possesses this power. This reflex action is a special function of the spinal cord, and serves as a monitor to, and regulator of the organs of nutrition and circulation, by placing them, ordinarily, beyond the control of conscious volition.

If the foot of a decapitated frog is irritated, there is an instant contraction of the corresponding limb; if the irritation is intense the other limb also contracts. These motions indicate the existence, in some part of the spinal cord, of a distinct nerve-centre, capable of converting and reflecting impulses. It has been found by experiment, that the same movements will take place if the irritation be applied to any portion of the body to which the spinal nerves are distributed, thus giving undoubted evidence that the spinal cord in its entirety is capable of causing these reflections. Fig. 57 represents the course of the nervous impulses. The sensory impulse passes upward along the posterior root, *a*, until it reaches the imbedded gray matter, *b*, of the cord, by which it is reflected, as a motor impulse, downward along the anterior root, *c*, to the muscles whence the sensation was received. This is the reflex action of the spinal cord. There is no consciousness or sensation connected with this action, and the removal of the brain and the sympathetic system does not diminish its activity. Even after death it continues for some time, longer in cold-blooded than in warm-blooded animals, on account of the difference in temperature, thus showing this property of the spinal cord. By disease, or the use of certain poisons, this activity may be greatly augmented, as is frequently observed in the human subject. A sudden contact with a different atmosphere may induce these movements. The contraction of the muscles, or cramp, often experienced by all persons, in stepping into a cold bath, or emerging from the cozy sitting-room into a chilly December temperature, are familiar illustrations of

Fig. 57.



reflex movements. It has been demonstrated that the irritability of the nerves may be impaired or destroyed, while that of the muscles to which they are distributed remains unchanged; and that the motor and sensory classes of filaments may be paralyzed independently of each other.

The reflex actions of the spinal cord have been admirably summed up by Dr. Dalton, as exerting a general, protective influence over the body, presiding over the involuntary action of the limbs and trunk, regulating the action of the sphincters, rectum, and bladder, and, at the same time, exercising an indirect influence upon the nutritive changes in all parts of the body to which the spinal filaments are distributed.

The Brain. The brain is a complex organ, which is divided into the *medulla oblongata*, the *cerebellum*, and the *cerebrum*.

The *medulla oblongata* is situated just above the spinal cord, and is continuous with it below, and the brain above. It has distinct functions which are employed in the preservation and continuance of life. It has been termed the "vital knot," owing to the fact that the brain may be removed and the cord injured and still the heart and lungs will continue to perform their functions, until the medulla oblongata is destroyed.

The arrangement of the white and gray matter of the medulla oblongata is similar to that of the spinal cord; that is to say, the white matter is external and the gray internal; whereas in the cerebellum and cerebrum this order is reversed. The fibres of the spinal cord, before entering this portion of the brain, decussate, those from the right side crossing to the left, and those from the left crossing to the right side. By some authors this crossing of the sensory and motor filaments has been supposed to take place near the medulla oblongata. Dr. Brown-Sequard shows, however, that it takes place at every part of the spinal cord. The medulla oblongata is traversed by a longitudinal fissure, continuous with that of the spinal cord. Each of the lateral columns thus formed are subdivided into sections, termed respectively the *Corpora Pyramidalia*, the *Corpora Olivaria*, the *Corpora Restiformia* and the *Posterior Pyramids*.

The *Corpora Pyramidalia* (see *1*, *1*, Fig. 58) are two small medullary eminences or cords, situated at the posterior surface of the medulla oblongata; approaching the Pons Varolii they become larger and rounded.

The *Corpora Olivaria* (*3*, *3*, Fig. 58) are two elliptical prominences, placed exterior to the corpora pyramidalia. By some physiologists these bodies are considered as the nuclei, or vital points, of the medulla oblongata. Being closely connected with the nerves of special sensation, Dr. Solly supposed that they presided over the movements of the larynx.

Fig. 58.

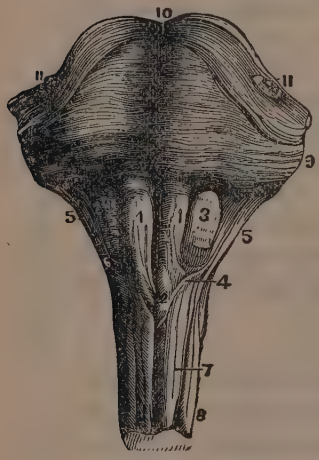


Fig. 59.

The *Corpora Restiformia* (*5*, *5*, Fig. 59) are lateral and posterior rounded projections of whitish medulla, which pass upward to the cerebellum and form the *crura cerebelli*, so called because they resemble a leg. The filaments of the pneumogastric nerve originate in the ganglia of these parts.

The *Posterior Pyramids* are much smaller than the other columns of the medulla oblongata. They are situated (*4*, *4*, Fig. 59) upon the margin of the posterior fissures in contact with each other.

The functions of the medulla oblongata, which begin with the earliest manifestations of life, are of an instinctive

character. If the cerebellum and cerebrum of a dove be removed, the bird will make no effort to procure food, but if a crumb of bread be placed in its bill, it is swallowed naturally and without any special effort. So also in respiration, the lungs continue to act after the inter-costal muscles are paralyzed; if the diaphragm loses its power, suffocation is the result, but there is still a convulsive movement of the lungs for sometime, indicating the continued action of the medulla oblongata.

The *Cerebellum*, or little brain, is situated in the posterior chamber of the skull, beneath the *tentorium*, a tent-like process of the dura mater which separates it from the cerebrum. It is convex, with a transverse diameter of between three and one-half and four inches, and is little more than two inches in thickness. It is divided on its upper and lower surfaces into two lateral hemispheres, by the superior and inferior vermiform processes, and behind by deep notches. The cerebellum is composed of gray and white matter, the former being darker than that of the cerebrum. From the beautiful arrangement of tissue, this organ has been termed the *arbor vitæ*.

The *peduncles of the cerebellum*, the means by which it communicates with the other portions of the brain, are divided into three pairs, designated as the *superior*, *middle* and *inferior*. The first pass upward and forward until they are blended with the tubercles of the *corpora quadrigemina*. The second are the *crura cerebelli*, which unite in two large *fasciculi*, or pyramids, and are finally lost in the *pons varolii*. The inferior peduncles are the corpora restiformia, previously described, and consist of both sensory and motor filaments. Some physiologists suppose that the cerebellum is the source of that harmony or associative power which co-ordinates all voluntary movements, and effects that delicate adjustment of cause to effect, displayed in muscular action. This fact may be proved by removing the cerebellum of a bird and observing the results, which are an uncertainty in all its movements, and difficulty in standing, walking, or flying, the bird being unable to direct its course. In the animal kingdom we find an apparent correspondence between the size of the cerebellum and the variety and extent of the movements of the animal. Instances

are cited, however, in which no such proportion exists, and so the matter is open to controversy. The general function of the cerebellum, therefore, cannot be explained, but the latest experiments in physiological and anatomical science seem to favor the theory that it is in some way connected with the harmony of the movements. This co-ordination, by which the adjustment of voluntary motion is supposed to be effected, is not in reality a *faculty* having its seat in the brain substance, but is the harmonious action of many forces through the cerebellum.

The *Cerebrum* occupies five times the space of all the other portions of the brain together. It is of an ovoid form, and becomes larger as it approaches the posterior region of the skull. A longitudinal fissure covered by the dura mater separates the cerebrum into two hemispheres, which are connected at the base of the fissure, by a broad medullary band, termed the *corpus callosum.* Each hemisphere is subdivided into three lobes. The anterior gives form to the forehead, the middle rests in the cavity at the base of the skull, and the posterior lobe is supported by the tentorium, by which it is separated from the cerebellum beneath. One of the most prominent characteristics of the cerebrum is its many and varied *convolutions* These do not correspond in all brains, nor even on the opposite sides of the same brain, yet there are certain features of similarity in all; accordingly, anatomists enumerate four *orders of convolutions.* The first order begins at the *substantia perforata* and passes upward and around the corpus callosum toward the posterior margin of that body, thence descends to the base of the brain, and terminates near its origin. The second order originates from the first, and subdivides into two convolutions, one of which composes the exterior margin and superior part of the corresponding hemisphere, while the other forms the circumference of the *fissure of Sylvius.* The third order, from six to eight in number, is found in the interior portion of the brain, and inosculates between the first and second orders. The fourth is found on the outer surface of the hemisphere, in the space between the sub-orders of the second class A peculiar fact relating to these convolutions is observed by all anatomists: mental

development is always accompanied by an increasing dissimilarity between their proportional size.

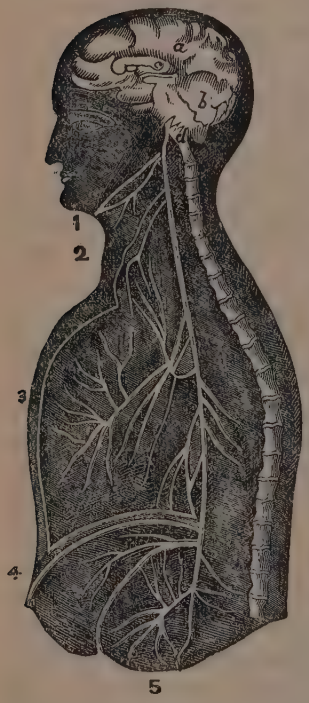
The cerebral hemispheres may be injured or lacerated without any pain to the patient. The effect seems to be one of stupefaction without sensation or volition. A well-developed brain is a very good indication of intelligence and mental activity. That the cerebrum is the seat of the reasoning powers, and all the higher intellectual functions, is proved by three facts. (1.) If this portion of the brain is removed, it is followed by the loss of intelligence. (2.) If the human cerebrum is injured, there is an impairment of the intellectual powers. (3.) In the animal kingdom, as a rule, intelligence corresponds to the size of the cerebrum. This general law of development is modified by differences in the cerebral texture. Men possessing comparatively small brains may have a vast range of thought and acute reasoning powers. Anatomists have found these peculiarities to depend upon the quantity of gray matter which enters into the composition of the brain.

In the cerebro-spinal system there are three different kinds of reflex actions. (1.) Those of the spinal cord and medulla oblongata are performed without any consciousness or sensation on the part of the subject. (2.) The second class embraces those of the tuber annulare, where the perception gives rise to motion without the interference of the intellectual faculties. These are denominated purely *instinctive* reflex actions, and include all those operations of animals which seem to display intelligent forethought; thus, the beaver builds his habitation over the water, but not a single apartment is different from the beaver homestead of a thousand years ago; there is no improvement, no retrogression. Trains of thought have been termed a third class of reflex actions. It is evident that the power of reasoning is, in a degree, possessed by some of the lower animals: for instance, a tribe of monkeys on a foraging expedition will station guards at different parts of the field, to warn the plunderers of the approach of danger. A cry from the sentinel, and general confusion is followed by retreat. Reason only attains its highest development in man, in whom it passes the bounds of ordinary existence, and, with the magic wand of love, reaches outward into the

vast unknown, lifting him above corporeal being, into an atmosphere of spiritual and divine Truth.

The Cranial Nerves. From the brain, nerves are given off in pairs, which succeed one another from in front backwards to the number of twelve. The *first* pair, the *olfactory* nerves, are the nerves of the sense of smell. The *second* pair are the *optic*, or the nerves of the sense of sight. The *third* pair are called the *motores oculi*, the movers of the eye, from the fact that they are distributed to all the muscles of the eye with the exception of two. The *fourth* pair and the *sixth* pair each supply one of the muscles of the eye, on each side, the fourth extending to the superior oblique muscle, and the sixth to the external rectus muscle. The nerves of the *fifth* pair are very large; they are each composed of two bundles of filaments, one motor and the other sensory, and have, besides, an additional resemblance to a spinal nerve by having a ganglion on each of their sensory roots, and, from the fact that they have three chief divisions, are often called the *trigeminal*, or *trifacial*, nerves. They are nerves of special sense, of sensation, and of motion. They are the sensitive nerves which supply the cranium and face, the motor nerves of the muscles of mastication, the *buccinator* and the *masseter*, and their third branches, often called the *gustatory*, are distributed to the front portion of the tongue, and are two of the

Fig. 60.



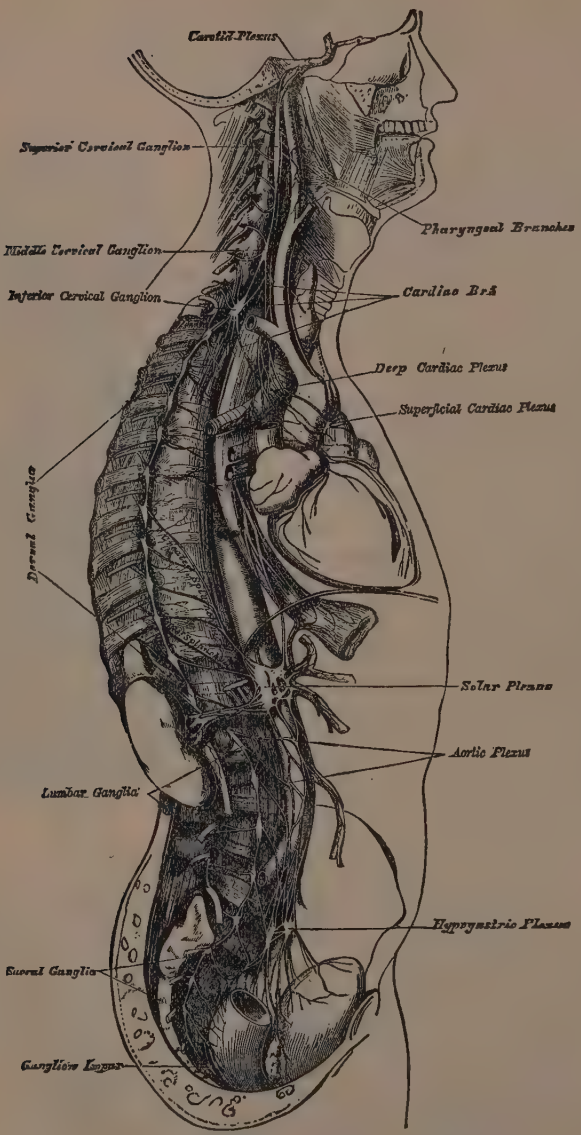
Section of the brain and an ideal view of the pneumogastric nerve on one side, with its branches. *a.* Vertical section of the cerebrum. *b.* Section of the cerebellum. *c.* Corpus callosum. *d.* Lower section of medulla oblongata. Above *d*, origin of the pneumogastric nerve. *1.* Pharyngeal branch. *2.* Superior laryngeal. *3.* Branches to the lungs. *4.* Branches to the liver. *5.* Branches to the stomach.

nerves of the special sense of taste. The *seventh* pair, called also the *facial* nerves, are the motor nerves of the muscles of the face, and are also distributed to a few other muscles; the *eighth* pair, termed the auditory nerves, are the nerves of the special sense of hearing. As the *seventh* and *eighth* pairs of nerves emerge from the cavity of the skull together, they are frequently classed by anatomists as one, divided into the *facial*, or *portio dura*, as it is sometimes called, and the *auditory*, or *portio mollis*. The *ninth* pair, called the *glosso-pharyngeal*, are mixed nerves, supplying motor filaments to the *pharyngeal muscles* and filaments of the special sense of taste to the back portion of the tongue. The *tenth* pair, called the *pneumogastric*, or *par vagum*, are very important nerves, and are distributed to the larynx, the lungs, the heart, the stomach, and the liver, as shown in Fig. 60. This pair and the next are the only cerebral nerves which are distributed to parts of the body distant from the head. The *eleventh* pair, also called *spinal accessory*, arise from the sides of the spinal marrow, between the anterior and posterior roots of the dorsal nerves, and run up to the medulla oblongata, and leave the cranium by the same aperture as the pneumogastric and glosso-pharyngeal nerves. They supply certain muscles of the neck, and are purely motor. As the glosso-pharyngeal, pneumogastric, and spinal accessory nerves leave the cranium together, they are by some anatomists counted as the *eighth* pair. The *twelfth* pair, known as the *hypo-glossal*, are distributed to the tongue, and are the motor nerves of that organ.

THE GREAT SYMPATHETIC.

A double chain of nervous ganglia extends from the superior to the inferior parts of the body, at the sides and in front of the spinal column, and is termed, collectively, the system of the *great sympathetic*. These ganglia are intimately connected by nervous filaments, and communicate with the cerebro-spinal system by means of the motor and sensory filaments which penetrate the sympathetic. The nerves of this system are distributed to those organs over which conscious volition has no direct control.

Fig. 61.



Course and distribution of the great Sympathetic Nerve.

Four of the sympathetic centers, situated in the front and lower portions of the head, are designated as the *ophthalmic*, *spheno-palatine*, *submaxillary* and *otic ganglia*. The first of these, as its name indicates, is distributed to the eye, penetrates the *sclerotic membrane* (the white, opaque portion of the eyeball, with its transparent covering), and influences the contraction and dilation of the iris. The second division is situated in the angle formed by the sphenoid and maxillary bone, or just below the ear. It sends motor and sensory filaments to the palate, and *velum palati*. Its filaments penetrate the carotid plexus, are joined by others from the motor roots of the facial nerve and the sensory fibres of the superior maxillary. The third division is located on the submaxillary gland. Its filaments are distributed to the sides of the tongue, the sublingual, and submaxillary glands. The otic ganglion is placed below the base of the skull, and also connects with the *carotid plexus*. Its filaments of distribution supply the internal muscles of the *malleus*, the largest bones of the *tympanum*, the membranous linings of the tympanum and the *eustachian tube*. Three ganglia, usually designated as the *superior*, *middle*, and *inferior*, connect with the cervical and spinal nerves. Their interlacing filaments are distributed to the muscular walls of the larynx, pharynx, trachea, and esophagus, and also penetrate the *thyroid gland*. The use of this gland is not accurately known. It is composed of a soft, brown tissue, and consists of lobules contained in lobes of larger size. It forms a spongy covering for the greater portion of the larynx, and the first section of the trachea. That it is an important organ, is evident from the fact that it receives four large arteries, and filaments from two pairs of nerves.

The sympathetic ganglia of the chest correspond in number with the terminations of the ribs, over which they are situated. Each ganglion receives two filaments from the intercostal nerve, situated above it, thus forming a double connection. The thoracic ganglia supply with motor fibres that portion of the aorta which is above the diaphragm, the esophagus, and the lungs.

In the abdomen the sympathetic centers are situated upon the *cœliac* artery, and are termed, collectively, the *semilunar*,

cœliac ganglion. Numerous inosculating branches radiate from this center and are called, from the method of their distribution, the *solar plexus.* From this, also, originate other plexi which are distributed to the stomach, liver, kidneys, intestines, spleen, pancreas, supra-renal glands, and to the organs of generation. Four other pairs of abdominal ganglia connected with the lumbar branches are united by filaments to form the semilunar ganglion.

The sympathetic ganglia of the pelvis consist of five pairs, which are situated upon the surface of the sacrum. At the extremity of the spinal column this system terminates in a single knot, designated as the *ganglion impar.*

Owing to the position of the sympathetic ganglia, deeply imbedded in the tissues of the chest and abdomen, it is exceedingly difficult to subject them to any satisfactory experiments. A few isolated facts form the basis of all our knowledge concerning their functions. They give off both motor and sensory filaments. The contraction of the *iris* is one of the most familiar examples of the action of the sympathetic system.

In the reflex actions of the nerves of special sense, the sensation is transmitted through the cerebro-spinal system, and the motor impulse is sent to the deep-seated muscles by the sympathetic system. Physiologists enumerate three kinds of reflex actions, which are either purely sympathetic, or partially influenced by the cerebro-spinal system. Dr. Dalton describes them as follows:

First.—"Reflex actions taking place from the internal organs, through the sympathetic and cerebro-spinal systems, to the voluntary muscles and sensitive surfaces.—The convulsions of young children are often owing to the irritation of undigested food in the intestinal canal. Attacks of indigestion are also known to produce temporary amaurosis [blindness], double vision, strabismus, and even hemiplegia. Nausea, and a diminished or capricious appetite, are often prominent symptoms of early pregnancy, induced by the peculiar condition of the uterine mucous membrane."

Second.—"Reflex actions taking place from the sensitive surfaces, through the cerebro-spinal and sympathetic systems,

to the involuntary muscles and secreting organs.—Imprudent exposure of the integument to cold and wet, will often bring on a diarrhea. Mental and moral impressions, conveyed through the special senses, will affect the motions of the heart, and disturb the processes of digestion and secretion. Terror, or an absorbing interest of any kind, will produce a dilatation of the pupil, and communicate in this way a peculiarly wild and unusual expression to the eye. Disagreeable sights or odors, or even unpleasant occurrences, are capable of hastening or arresting the menstrual discharge, or of inducing premature delivery."

Third.—"Reflex actions taking place through the sympathetic system from one part of the body to another.—The contact of food with the mucous membrane of the small intestine excites a peristaltic movement in the muscular coat. The mutual action of the digestive, urinary, and internal generative organs upon each other takes place entirely through the medium of the sympathetic ganglia and their nerves. The variation of the capillary circulation in different abdominal viscera, corresponding with the state of activity or repose of their associated organs, are to be referred to a similar nervous influence. These phenomena are not accompanied by any consciousness on the part of the individual, nor by any apparent intervention of the cerebro-spinal system."

CHAPTER XIII.

THE SPECIAL SENSES.

SIGHT.

The eye is the organ through which we perceive, by the agency of light, all the varied dimensions relations, positions, and visible qualities of external objects.

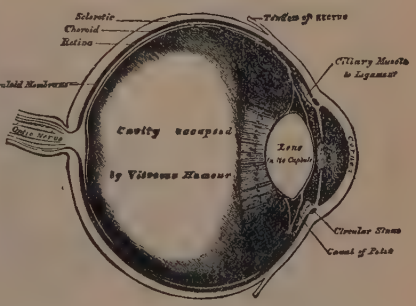
The number, position, and perfection of the eyes, vary remarkably in different orders, in many instances corresponding to the mode of life, habitation, and food of the animal. A skillful anatomist may ascertain by the peculiar formation of the eye, without reference to the general physical structure, in what element the animal lives. Sight is one of the most perfect of the senses, and reveals to man the beauties of creation. The æsthetic sentiment is acknowledged to be the most refining element of civilized life. Painting, sculpture, architecture, and all the scenes of nature, from a tiny wayside flower to a Niagara, are subjects in which the poet's eye sees rare beauties to mirror forth in the rhythm of immortal verse.

In the vertebrates, the organs of vision are supplied with filaments from the second pair of cranial nerves. In mammalia, the eyes are limited to two in number, which in man are placed in circular cavities of the skull, beneath the anterior lobes of the cerebrum. Three membranes form the lining of this inner sphere of the eye, called respectively, the Sclerotic, Choroid, and Retina.

The *Sclerotic*, or outer covering, is the white, firm membrane, which forms the larger visible portion of the eyeball. It is covered in front by a colorless, transparent segment, termed the *cornea*, which gives the eye its lustrous appearance. Within the sclerotic, and lining it throughout, is a thin, dark membrane,

termed the *Choroid.* Behind the cornea it forms a curtain, called the *iris*, which gives to the eye its color. The muscles of the iris contract or relax according to the amount of light received, thus enlarging or diminishing the size of the circular opening called the *pupil.* The *Retina* is formed by the optic nerve, which penetrates the sclerotic and choroid and spreads out into a delicate, grayish, semi-transparent membrane. The retina is one of the most *essential* organs of vision, and consists of two layers. A spheroidal, transparent body, termed the *crystalline lens*, is situated directly behind the pupil. It varies in density, increasing from without inward, and forms a perfect refractor of the light received. The space in front of the crystalline lens is separated by the iris into two compartments called respectively the *anterior* and *posterior chambers.* The fluid contained within them, termed the *aqueous humor*, is secreted by the cornea, iris, and ciliary processes. The space behind the crystalline lens is occupied by a fluid, called the *vitreous humor.* This humor is denser than the other fluids and has the consistency of jelly, being perfectly transparent. "The function of the crystalline lens is to produce distinct perception of form and outline."* The transparent humors of the eye also contribute to the same effect, but only act as auxiliaries to the lens.

Fig. 62.



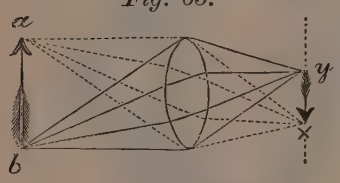
The figure on the next page represents the course of the rays of light proceeding from an object *a b*, refracted by the lens, and forming the inverted image *x y* on the screen. All rays of light proceeding from *b* are concentrated at *y*, and those proceeding from *a* converge at *x*. Rays of light emanating from the center of the object *a b* pursue a parallel course,

* Dalton—Human Physiology.

and form the center of the image. Rays of light passing through a double convex lens converge at a point called the *focus*. In the organ of vision, if perfect, the focus is on the retina, which serves as a screen to receive the image or impression. We have a distinct perception of the outline of a distant hill, and also of a book lying before us. The rays of light we receive from these objects cannot have the same focus. How, then, can we account for the evident accommodation of the eye to the varying distances? Various theories have been advanced to explain this adjustment; such as changes in the curvature of the cornea and lens; a movement of the lens, or a general change in the form of the eyeball, by which the axis may be lengthened or shortened.

Two facts comprise all the positive knowledge which we possess on this subject. Every person is conscious of a muscular effort in directing the eye to a near object, as a book, and of fatigue, if the attention is prolonged. If, now, the eyes be directed to a distant object, there will result a sense of rest, or passiveness. By various experiments it has been proved that the accommodation or adjustment of the eye for near objects requires a muscular effort, but for distant objects the muscles are in an essentially passive condition. An increase in the convexity of the crystalline lens is now admitted to be necessary for a distinct perception of near objects. We may give two simple illustrations, cited by Dr. Dalton in his recent edition of Human Physiology. If a candle be held near the front of an eye which is directed to a distant object, three reflected images of the flame will be seen in the eye, one on each of the anterior surfaces of the cornea and lens, and a third on the posterior surface of the latter. If the eye is directed to a near object, the reflection on the cornea remains unchanged, while that on the anterior surface of the lens gradually diminishes and approximates in size the reflection on the cornea, thus giving conclusive evidence that, in viewing a near object, the anterior surface of the crystalline lens become *more convex*, and at

Fig. 63.



the same time approaches the cornea. Five or six inches is the minimum limit of the muscular adjustment of the eye. From that point to all the boundless regions of space, to every star and nebulæ which send their rays to our planet, human vision can reach. It is the sense by which we receive knowledge of the myriads of worlds and suns which circle with unfailing precision through infinite space.

HEARING.

Hearing depends upon the sonorous vibrations of the atmosphere. The waves of sound strike the sensitive portions of the ear, and their impressions upon the auditory nerves are termed the sensations of hearing. The ear is divided into three parts, called respectively the External, Middle, and Internal ear.

Fig. 64.

Internal and external ear. *1.* External ear. *2.* Internal auditory meatus. *3.* Tympanum. *4.* Labyrinth. *5.* Eustachian tube.

The external organs of hearing are two in number, and placed on opposite sides of the head. In most of the higher order of vertebrates, they are so situated as to give expression and proportion to the facial organs, and, at the same time, to suit the requirements of actual life.

The *External ear* is connected with the interior part by a prolongation of its orifice, termed the *external auditory meatus.* In man, this gristly portion of the auditory apparatus is about one inch in length, lined by a continuation of the integument of the ear, and has numerous hairs on its surface, to prevent the intrusion of foreign substances. Between the external meatus and the cavity of the middle ear is the *membrana*

tympani, which is stretched across the opening like the head of a drum. The *tympanum*, or ear-drum, communicates with the pharynx by the *eustachian tube*; which is a narrow passage lined with delicate, ciliated epithelium. On the posterior portion it is connected with the *mastoid cells*. Three small bones are stretched across the cavity of the tympanum, and called, from their form, the *malleus*, *incus* and *stapes*, or the hammer, anvil, and stirrup. Agassiz mentions a fourth, which he terms the *os orbiculare*. Each wave of sound falling upon the membrana tympani, throws its molecules into vibrations which are communicated to the chain of bones, which, in turn, transmits them to the membrane of the *foramen ovale*. The three muscles which regulate the tension of these membranes are termed the *tensor tympani*, *laxator tympani*, and *stapedium tympani*.

The *Labyrinth*, or *Internal* ear, is a complicated cavity, consisting of three portions termed the *vestibule*, *cochlea*, and *semi-circular canals*. The vestibule is the central portion and communicates with the other divisions. The labyrinth is filled with a transparent fluid, termed *perilymph*, in which are suspended, in the vestibules and canals, small membranous sacs, containing a fluid substance, termed *endolymph* (sometimes called *vitrine auditive* from its resemblance to the vitreous humor of the eye). The filaments of the auditory nerve penetrate the membranous tissues of these sacs, and also of those suspended at the commencement of the semi-circular canals. These little sacs are supposed to be the seat of hearing, and to determine, in some mysterious way, the quality, intensity and pitch of sounds.

The determination of the *direction* of sound is a problem of acoustics. Some have contended that the arrangement of the semi-circular canals is in some way connected with this sensation. But this supposition, together with the theory of the transmission of sound through the various portions of the cranial bones, has been exploded.

From the foregoing description, it will be seen that the labyrinth and tympanum are the most essential parts of the organs of hearing. In delicacy and refinement this sense ranks next to sight. The emotions of beauty and

sublimity, excited by the warbling of birds and the roll of thunder, are scarcely distinguishable from the intense emotions arising from sight. It is a remarkable fact, that the refinement or cultivation of these senses is always found associated. Those nations which furnish the best artists, or have the highest appreciation of painting and sculpture, produce the most skillful musicians, those who reduce music to a science.

SMELL.

Next in order of delicacy, and more closely allied with the physical functions, is the sense of smell. Delicate perfumes, or the fragrance of a flower, impart an exhilarating sensation of delight, while numerous odors excite a feeling of disgust. The organ of smell is far less complicated in its structure than the eye or the ear. It consists of two cavities having cartilaginous walls, and lined with a thick mucous coat, termed the *pituitary membrane*, over which are reflected the olfactory nerves. Particles of matter, too minute to be visible even through the microscope, are detached from the odorous body and come in contact with the nerves of smell, which transmit the impressions or impulses thus received to the brain. Fig. 65 shows the distribution of the olfactory nerves in the nasal passages. The nose is supplied with two kinds of

Fig. 65.

1. Frontal sinus. *2.* Nasal bone. *3.* Olfactory ganglion and nerves. *4.* Nasal branch of the fifth pair. *5.* Spheno-palatine ganglion. *6.* Soft palate. *7.* Hard palate. *a.* Cerebrum. *b* Anterior lobes. *c.* Corpus callosum. *d.* Septum lucidum. *f.* Fornix. *g.* Thalami optici. *h.* Corpora striata.

filaments which are termed respectively nerves of *special* and nerves of *general sensation.* Compared with the lower animals, especially with those belonging to the carnivorous species, the sense of smell in man is feeble. The sensation of smell is especially connected with the pleasures and necessities of animal life.

TASTE.

The sense of taste is directly connected with the preservation and nutrition of the body. A delicious flavor produces a desire to eat a savory substance. Some writers on hygiene have given this sense an instinctive character, by assuming that all articles having an agreeable taste are suitable for diet. The nerves of taste are distributed over the surface of the tongue and palate, and their minute extremities terminate in well developed *papillæ.* These *papillæ* are divided into three classes, termed, from their microscopic appearance, *filiform, fungiform* and *circumvallate.* The organ of taste is the mucous membrane which covers the back part of the tongue and the palate. The papillæ of the tongue are large and distinct, and covered with separate coats of epithelium. The filiform papillæ are generally long and pointed and are found over the entire surface of the tongue. The fungiform are longer, small at the base and broad at the end. The circumvallate are shaped like an inverted V and are found only near the root of the tongue; the largest of this class of papillæ have other very small papillæ upon their surfaces. It is now pretty satisfactorily established that the circumvallate, or fungiform papillæ are the only ones concerned in the special sense of taste.

The conditions necessary to taste are, that the substance be in solution either by artificial means, or by the action of the saliva; and that it be brought in contact with the sensitive filaments imbedded in the mucous membrane. The nerves of taste are both *general* and *special* in their functions. If the general sensibility of the nerves of taste is unduly excited, the function of sensibility is lost for some time. If a peppermint lozenge is taken into the mouth, it strongly excites the general sensibilities of taste, and the power of distinguishing between special flavors is lost for a few moments. A

nauseous drug may then be swallowed without experiencing any disagreeable taste.

Paralysis of the facial nerve often produces a marked effect in the sensibility of the tongue. Where this influence lies has not been fully explained; probably it is indirect, being produced by some alteration in the vascularity of the parts or a diminution of the salivary secretions.

TOUCH.

By the sense of touch, we mean the *general sensibility of the skin.* Sensations of heat and cold are familiar illustrations of this faculty. By the sense of touch, we obtain a knowledge of certain qualities of a body, such as form consistency, roughness, or smoothness of surface, etc. The tip of the tongue possesses the most acute sensibility of any portion of the body, and next in order are the tips of the fingers. The hands are the principal organs of tactile sensation. The nerves of general sensibility are distributed to every part of the cutaneous tissue. The contact of a foreign body with the back, will produce a similar *tactile* sensation, as with the tips of the fingers. The sensation, however, will differ in *degree* because the back is supplied with a much smaller number of sensitive filaments; in *quality* it is the same.

CHAPTER XIV.

CEREBRAL PHYSIOLOGY.

By means of the nervous system, an intimate relation is maintained between mind and body, for nervous energy superintends the functions of both. The fibres of nervous matter are universally present in the organization, uniting the physical and spiritual elements of man's being. Even the minutest nerve-rootlets convey impressions to the dome of thought and influence the intellectual faculties. We recognize *muscular* force, the strength of the body, *molecular* force, molecules in motion, as heat, light, chemical force, electricity, and *nervous* force, a certain influence which reacts between the animal functions and the cerebrum, thus connecting the conditions of the body with those of the mind. We cannot speak of the effects of mind or body separately, but we must consider their action and reaction upon each other, for they are always associated. There are many difficulties in understanding this relationship, some of which may be obviated by a study of the development of nervous matter, and its functions in the lower orders of organization.

Within the plant-cells is found a vital, vegetable substance termed bioplasm, or protoplasm, which furnishes the same nutritive power as the tissues of the polyp and jelly fish. Many families of animals have pulpy bodies, and slight instinctive motion and sensibility, and in proportion as the nervous system is developed, both of these powers are unfolded. Plants have a low degree of sensibility, limited motion, respiratory and circulatory organs. Animals possess quicker perceptions and sensibilities, the power of voluntary motion, and, likewise,

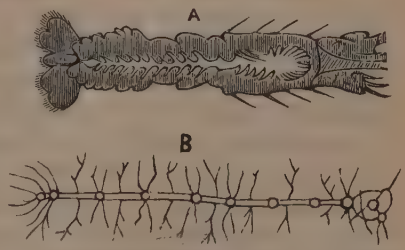
a rudimental nervous system. Some articulates have no bony skeleton, their muscles being attached to the skin which constitutes a soft contracting envelope. One of the simplest forms of animal life in which a nervous system is found, is the five-rayed star-fish. In each ray there are filaments which connect with similar nerve-filaments from other rays, and form a circle around the digestive cavity. It probably has no conscious perception, and its movements do not necessarily indicate sensation or volition. In some worms a rudimentary nervous system is sparingly distributed to the cavities of the thorax and abdomen, and, as in the star-fish, the largest nerve-filament is found around the esophagus, presiding over nutrition.

Fig. 66.

A higher grade of organization requires a more complete arrangement of nervous substance. Stimulus applied to one organ is readily communicated to, and excites activity in another.

The nervous system of some insects consists of two long, white cords, which run longitudinally through the abdomen, and are dilated at intervals into knots, consisting of collections of nerve-cells, called ganglia. They are really nerve-centers, which receive and transmit impulses, originate and impart nervous influence according to the nature of their organic surroundings. The ganglia situated over the esophagus of insects correspond to the medulla oblongata in man, in which originate the spinal

Fig. 67.



A. Nervous system of a Crab, showing its ganglia. *B*. The nervous system of a Caterpillar.

accessory, glosso-pharyngeal, and pneumogastric nerves. The latter possess double endowments, and not only participate in the operations of deglutition, digestion, circulation, and respiration, but are also nerves of sensation and instinctive motion. The suspension of respiration produces suffocation. In insects, these ganglia are scarcely any larger than those distributed within the abdomen, with which they connect by means of minute, nervous filaments. Insects are nimble in their movements, and manifest instinct, corresponding to the perfection of their muscular and nervous systems. When we ascend to vertebrates, those animals having a backbone, the amount of the nervous substance is greater, the organic functions are more complex, and the actions begin to display intelligence.

Man possesses not only a complete sympathetic system, the rudiments of which are found in worms and insects, and a complete spinal system, less perfectly displayed in fishes, birds, and quadrupeds, but, superadded to all these is a magnificent cerebrum, and, as we have seen, all parts of the body are connected by the nervous system. The subtle play of sensory and motor impulses, of sentient and spiritual forces, indicates a perfection of nervous endowments nowhere paralleled, and barely approached by inferior animals. This meager reference to brainless animals, whose knots of ganglia throughout their bodies act automatically as little brains, shows that instinct arises simultaneously with the development of the functions over which it presides. Here begins rudimentary, unreasoning intelligence. It originates within the body as an inward, vital impulse, is manifested in an undeviating manner, and therefore displays no intention or discretion. While Dr. Carpenter likens the human organism "to a keyed instrument, from which any music it is capable of producing can be called forth at the will of the performer," he compares "a bee or any other insect to a barrel organ, which plays with the greatest exactness a certain number of tunes that are set upon it, but can do nothing else." Instinct cannot learn from experience, or improve by practice; but it seems to be the prophetic germ of a higher intelligence. It is nearly as difficult to draw the dividing line between instinct and a low grade of intelligence, as it is to distinguish

between the psychical and psychological* functions of the brain.

The intimate relation of instinct to intelligence is admirably illustrated in the working honey-bee. With forethought it selects a habitation, constructs comb, collects honey, provides a cell for the ova, covers the chrysalis, for which it deposits special nourishment, and is disposed to defend its possessions. It is a social insect, lives in colonies, chastises trespassers, fights its enemies, and defends its home. It manifests a degree of intelligence, but its sagacity is instinctive. Reason, though not so acute as instinct, becomes, by education, discerning and keenly penetrative, and reveals the very secrets of profound thought. We recall the aptness of Prof. Agassiz's remark: "*There is even a certain antagonism between instinct and intelligence, so that instinct loses its force and peculiar characteristics, whenever intelligence becomes developed.*" Animals having larger reasoning powers manifest less instinct, and some, as the leopard, exercise both in a limited degree. This double endowment with instinct and low reasoning intelligence, is indicated by his lying in ambush awaiting his prey, the hiding-place being selected near the haunt of other animals, where nature offers some allurement to gratify the appetite.

Simple reflex action is an instinctive expression, manifesting an intuitive perception, almost intelligent, as shown by the contraction of the stomach upon the food, simply because it impinges upon the inner coats, and thus excites them to action. A better illustration, because it displays sympathy, is when the skin, disabled by cold, cannot act, and its duties are largely performed by the kidneys. Though reflex action is easily traced in the lower organic processes, some writers have placed it on a level with rational deliberation. Undoubtedly, all animals having perception have also what perception implies —consciousness—and this indicates the possession, in some

*In the use of the terms psychical and psychological, we have observed the distinction which metaphysicians have recently made. They employ the term psychical to indicate the relation of the human soul to sense, appetite, propensity, etc., and psychological, as indicating the ultimates of spiritual being. In this manner we use the word psychical as describing the relationship of the soul to animal experiences and being, and psychological as referring to the spiritual potencies of the soul. The distinction being introduced, we continue its use rather than coin new words.

degree, of reason. *Compound* reflex action extends into the domain of thought. *Simple* reflex action, or instinct, answers to the animal faculties, such as acquisitiveness, secretiveness, selfishness, reproductiveness, etc., and accomplishes two important purposes; self-preservation and the reproduction of the species. With many persons, these appear to be the chief ends of life!

The psychical functions connect, not only with animal propensities, but also with the highest psychological faculties. Instinct is the representative of animal conditions, just as the highest spiritual faculties are indicative of qualities and principles. The consistent mean of conduct is an equilibrium between these ultimate tendencies of our being. The psychological functions render the animal nature subservient to the rule of purity and holiness, and deeply influence it by the essential elements of spiritual existence. The psychical organs sustain an intermediate relation, receiving the impressions of the bodily propensities, and, likewise, of the highest emotions. Obviously, these extreme influences, the one growing out of animal conditions, the other, the result of spiritual relations, pass into the psychical medium and are refracted by it, or made equivalent to one force. The body requires the qualifying influences of mind. The tendencies of the animal faculties are selfish and limiting, those of the emotive, general, universal. The propensities, like gravity, expend their force upon matter; the emotions pour forth torrents of feeling, and produce rhapsodies of sentiment. The propensities naturally restrict their expression to a specific object of sense; the emotions respond to immaterial being. The tendencies of the former are acquisitive, selfish, gratifying; of the latter, bestowing, expanding, diffusing. The one class is restricted to the orbits of time and matter, the other flows on through the limitless cycles of infinity and immortality. The former is satiated in animal gratification, the latter in spiritual beatification. The one culminates in animal enjoyment, the other expands to its ultimate conceptions in the perfections of Divine Love.

In the present life, mind and body are intimately connected by nervous matter. In this dual constitution, the spiritual, mental, and animal functions are made inseparable, and modify

one another. The ultimate tendencies of each extreme exist, not absolutely for themselves, but for qualifying purposes, to establish a basis for the deeper economy of life. By the employment of reason, animal and spiritual experiences are mutually benefited, and the consciousness rendered accountable. The bodily and mental workings are in many senses one, and help to interpret each other.

Every fact of mind has many aspects. A brain force, which results in thought, is simultaneously a physiological force, if it influences the bodily functions. Likewise, spiritual conceptions take their rise in the same blood that feeds the grosser tissues. This vital fluid is momentarily imparting and receiving elements from all the bodily organs, and these, in turn, must influence the process of thought, and, in a degree, determine its quality. The delicate outline, yea, even the substance of an idea, may depend upon the condition of the animal organs. Thought is subject to the laws of biology, and, therefore, is a symbol of health. Morbid conditions of the system hang out their signs in words and utterances. Words which express fear are as true symptoms of functional difficulty as is excessive palpitation. The organ representing fear sustains a special relation to the functions of the heart both in health and disease. Bright hopes characterize pulmonary complaints as certainly as cough. Exquisite susceptibility of mind indicates equally extreme sensibility of body, and those persons capable of fully expressing the highest emotions are especially susceptible to bodily sensations. Tears are physical emblems of grief, and fellow-feeling calls forth sympathetic tears. Excessive anxiety of mind produces general excitability of body, which soon results in chronic disease. Pleasurable emotions stimulate the processes of nutrition, and are restorative. This concomitance of mental and bodily states is very remarkable. Joy and Love, as well as jealousy and anger, flash in the eye and mould the features to their expression. Grief excites the lachrymal, and rage the salivary glands. Shame reddens the ears, drops the eyelids, and flushes the face; but profligacy destroys these expressions. The blush which suffuses the forehead of the bashful maiden betrays her love, and *maternal* love, stirred by the appeals of an idolized infant, excites the mammary gland

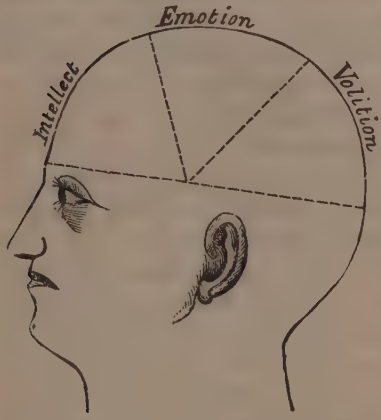
to the secretion of milk. The sigh of melancholia indicates hepatic torpor, thus showing a special relation between the liver and respiratory organs. These conditions of mind and body react upon one another. Even the thought of a luscious peach may cause the mouth to water. The thought of tasting a lemon fills the mouth with secretions, and a story with unsavory associations may completely turn the stomach.

The relationship of mental and physical functions may be illustrated by entirely removing the spleen of an animal, as that of a dog. An invariable result of its extirpation is an unusual increase of the appetite, for at times the animal will eat voraciously any kind of food. The dog will devour, with avidity, the warm entrails of recently killed animals, and thrive in consequence of such an appetite. Another symptom, which usually follows the removal of the spleen, is an unnatural ferocity of disposition. Without any apparent provocation, the animal will attack others of its own, or of a different species. In some instances, these outbursts of irritability and violence are only occasional, but the experiments show quite conclusively that the spleen moderates combativeness, restrains the appetite, and co-operates with the will and judgment in controlling them.

We shall briefly consider the practical question whether the elements of mind can be ideally arranged and presented, so as to more completely reveal their relations to, and disclose their effects upon the bodily functions. Modern philosophers conceive that mind consists of a triad of essentials; *Intellect*, *Emotion*, and *Volition*. Physiologists assign to the cerebrum its functions, and neurological, as well as phrenological writers, have located them as represented in Fig. 68. True, there is no structural division between the parts of the cerebrum to indicate this diversity of function, nor is there any perceptible limit between the sensory and motor filaments of the same nerve. As no one has any reason for denying that separate portions of the brain may manifest distinct functions of the mind, we shall assume it as a conceded proposition. The regions of the cerebrum, thus ideally represented, occupy but little more than half of the arc of a circle, whereas it is evident that the base of the nervous mass is not idle, and is equally entitled to our consideration. In the posterior chamber

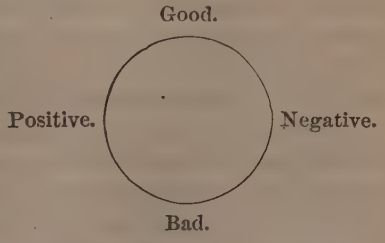
of the skull is the cerebellum, anterior to, and below which, is the medulla oblongata, connecting with the spinal cord and sympathetic system. These various parts are essential to the harmonious blending of mind and body. To this end, two conditions are necessary. (1.) All the nervous forces must be so related that action and reaction may be fully established. (2.) A complete nervous circuit is requisite for the reciprocal influence of mind and body.

Fig. 68.



Nature answers to mind in physical correspondences. The planetary system is fashioned after a circle. Life itself springs from a spherule of forces. The perfection of an idea, or the completeness of a conception may be expressed by a circle. The elements of Science, Astronomy, Geology, and Natural History, are pictorially represented in this manner. How appropriately and logically can a fragment of natural history, this epitome of all nature and science—*the mind*—be illustrated by a simple circle! Every element must act and react, and be equal and opposite. Thus may the existence of the opposing energies and functions of each faculty be equally represented. The contrast aids us in understanding their ultimate tendencies, and enables us to correctly value and define their nature. Faculties of kindred qualities may be grouped together, and their antagonisms represented in the opposite arc of the circle. Let us employ a circle to represent mind. The conception of the abstract

Fig. 69.

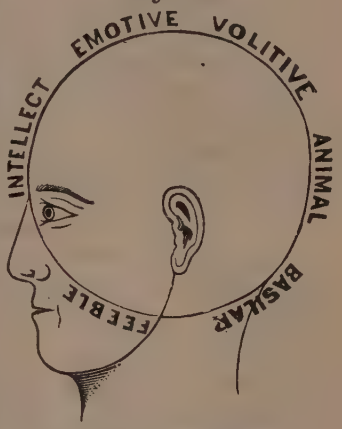


quality of *good*, requires contrast with one of a converse nature, *bad*, (see Fig. 69). Opposite faculties may be portrayed in the same manner. The functions of the cerebrum and spinal system may be symbolically represented as those of the highest and lowest organs, thus giving rise to the positive and negative extremes of feeling. The writer conceives of no other way in which the widely contrasted facts of human experience can be so perfectly symbolized. *Good* (Fig. 69) may represent moral faculties, and *bad*, their opposites. Undoubtedly, nature is not so arbitrary in her arrangements as we are in shadowing forth our imperfect conceptions, yet is not this a decided improvement in determining cerebral faculties and their relations? We observe how scholars and philosophers confound the noblest and most exalted emotions with the animal propensities instead of distinguishing between them. "*The emotions are a department of the feelings, formed by the intervention of intellectual processes. Several of them are so characteristic that they can be known only by individual experiences; as Wonder, Fear, Love, Anger.*" See Logic: Deductive and Inductive, by Alexander Bain, LL. D., page 508, (1874).

This is not an exceptional, but a common example of classifying Love, the highest and purest of the emotions, with Anger, an animal propensity. Is it not more practical and philosophical to group the emotional faculties together, and upon an opposite are represent their antagonistic energies, the ultimate tendencies of which are criminal? Both groups are mutually modifying and restraining; the one relates instinctively to the bodily wants, the other to the requirements of mind, and each is essential to a consistent life. Accordingly, we deem it philosophical to consider words as symbols of mental faculties, and to classify together such spiritual unities as joy, hope, faith, and love, the tendencies of which are to quicken and transform the ultimates of carnal life into the rudiments of an immortal one, the beginning of heaven on earth. These restrain those opposites, which lead to crime and death. Love and Hate are as antagonistic as heat and cold, and the usefulness of both depends upon their *proper* temperament. Fig. 70 represents the antagonism of the Intellectual

faculties to the Animal, the Emotional to the Criminal, the Volitive to the Enfeebling. It is not essential to discover in the nerve-substance the precise power from which an impulse originates. We may reasonably interpret the functions of the brain, and yet be unable to disclose the duties of any ganglionic corpuscle composing it. We may foretell what each season of the year will bring forth, when we cannot forecast the history of a blade of grass or a single grain of any kind. We may predict the amount of rain for a month, and be unable to prognosticate correctly, the character of any storm, or give the history of a special drop of water. Although we cannot follow the movements of individuals in a battle, yet we may predict the result of the combat; and thus, we judge of the functions of the brain without the ability to reveal the actions of one of the organic molecules of which it is composed. We aim to give a general, reasonable, and popular description of cerebral functions and their bearing upon health and disease.

Fig. 70.

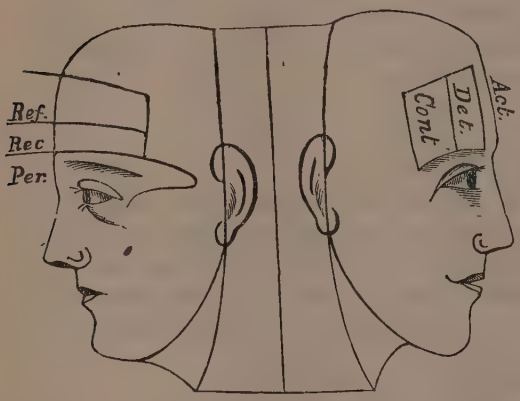


REGIONAL DIVISIONS.

The anterior portion of the cerebrum is devoted to intellectual processes, which freely expend the vital energies. The Intellectual faculties are classified as represented in Fig. 71. The lower portion of the brain, bounded exteriorly by the superciliary ridge, corresponds to the Perceptive, the middle region to the Recollective, and the upper to the Reflective faculties. (See also Fig. 65, *b*.) If we divide the forehead by vertical lines, as shown in Fig. 71, the divisions thus formed represent respectively, the Active, Deliberative, and Contemplative departments of the intellect, all the processes of which are sustained by vital changes, the transformation of organized materials. No mental effort can be made without waste of

nervous matter. The gardener's hoe wears by use, and so does every part of the animal organism. Otherwise, nutrition would be unnecessary for the adult. The production of thought wears away the cerebral substance. In ordinary use, the brain requires one-fifth of the blood to support its growth and repair. Great mental efforts are attended by a corresponding expenditure of vital treasures, which are abstracted from the total forces available for the necessities of the system. To repair the losses thus occasioned, materials are appropriated from the blood, which furnishes supplies in proportion to the demands made by the mental activities. The production of thought wears away the gray matter of the cerebrum as surely as the digging of a canal wears away the iron particles of the spade. The brain would soon wear out did not the nutritive functions constantly make good the waste. The intellect, whether engaged in observation, generalization, or profound study consumes the brain and blood, hence intellectual activity implies VITAL EXPENDITURE. *Expenditure* is an emphatic word because all functions are essential to the production of this nerve-energy, which returns to the system no equivalent. Physical exercise, although attended by structural waste, is advantageous to the circulation of the blood, nutrition, secretion, and, in fact, beneficial to all the organic processes. This is not true of vigorous and prolonged mental labor, which is not attended by any of these incidental advantages. If a child attends a school in which mental development supersedes physical culture, an inordinate ambition sways the youthful mind, and

Fig. 71.



its baneful effects upon the health soon become manifest. Rigorous application of the intellectual faculties consumes the blood, exhausts the vital forces, weakens the organic functions, while pallor covers the face, and the eyes sparkle with a hectic radiance. The family physician pronounces the condition *Anæmia* (a deficiency of red corpuscles in the blood), and this change in the quality of the blood is owing to the undue appropriation by the brain. Conversely, if the blood be destroyed, or its vitality reduced, in the same proportion will the mental energies be weakened and all the functional powers of the physical system enfeebled. In brief, if the intellect be unduly exercised, the red puscles of the sanguine fluid will be gradually destroyed, and the serum allowed to predominate. The blood becomes weak and watery, the subject is nervous, dropsical, consumptive, and derangement of the important functions follows almost invariably. Excessive intellectual activity often produces weak state of the system, and the person thus affected becomes languid, spiritless, and an easy prey to disease. This mental cause and its bodily results may be classified in the following order. Mental Cause: EXCESSIVE MENTAL EXERTION, which produces *waste of the brain substance and blood.*

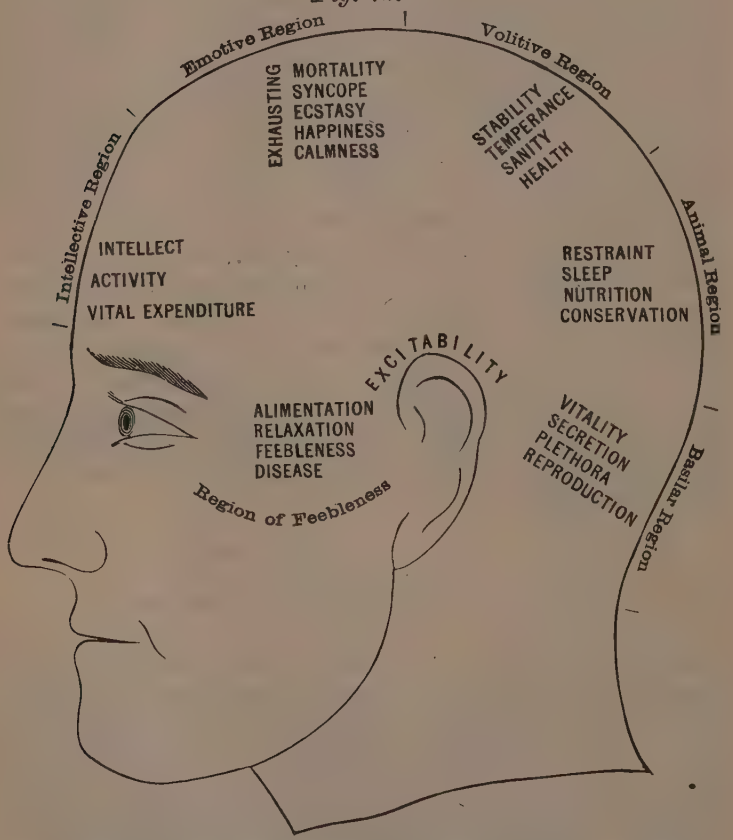
Bodily results: { VITAL EXPENDITURE, ANÆMIA, A WEAK CONDITION.

This kind of waste is best summed up in the words, VITAL EXPENDITURE. Upon the forehead, as represented in Fig. 72, we will therefore inscribe INTELLECT, ACTIVITY, and VITAL EXPENDITURE. Intellectual employment is usually accompanied by sedentary habits, neglect of healthful exercise, and a deprivation of pure air, to all of which ill health may be attributed. Were the intellectual expenditure arrested, and the forces turned into recuperative channels, many a person would become beautiful with the ruddy glow of health. Without health there is no use for thought; cultivation of the mind is just as natural and essential as the culture of the body, and the trained development of both is needed for mutual improvement.

EMOTIVE FACULTIES.

What results follow the *natural* and the *excessive* exercise of the EMOTIVE FACULTIES? As distinct organs of the body have diverse functions, so, in like manner, different parts of

Fig. 72.



the brain perform the separate operations of the mind. It is easier to discriminate between the products of these dissimilar endowments than to determine the location of the faculties. The intellect deals with concrete subjects, and the emotions with abstractions; the intellect is exercised with material things, the emotions dwell upon attributes; the intellect considers the forces of matter, the emotions, the powers of

the soul; the former deliberates upon the truths of science, the latter is concerned with duties, obligations, or moral responsibilities; the first is satisfied only with new truths, original ideas, and rational changes, the last rest securely on fundamental principles, moral certainties, and the absolute constancy of perfect love. The intellectual faculties are wakeful, questioning, mistrustful; the emotions are blind, hopeful, confiding; the one reasoning, exacting, demonstrating; the other, believing, inspiring, devout. The intellect sees, the emotions feel; and, though these functions may blend, the one can never supersede the other.

The quality of the emotional faculties is represented by Benevolence, Sympathy, Joy, Hope, Confidence, Gratitude, Love, and Devotion, all of which are the very antitheses of the attributes of animal feeling, described as Melancholy, Fear, Anger, Hate, Malevolence, and Despair. To the emotions we refer the highest qualities of character, while their opposites represent the animal or baser impulses. True, the emotions modify the propensities, as sympathy softens grief. They may subdue and refine the animal feelings, and thus veil them with a delicacy characteristic of their own purity; but the unrestrained influences of grief find vent in loud lamentations, and the bitter disappointments of the selfish faculties are passionate and violent.

The *Emotive Faculties*—the organs of spiritual perceptions—are impersonal, outflowing, bestowing. The function represented by Benevolence, is willing, giving. Devotion expresses dedication, consecration; Gratitude manifests a warm and friendly feeling toward a benefactor.

"The depth immense of endless gratitude."—MILTON.

Love flames toward its object, is out-pouring, blessing; indeed, all the emotions are gushing, effusive, impetuous, and profusely flowing; grand, torrent-like, overwhelming; employing ideal, immaterial, spiritual expressions, developing principles and perfections while aspiring to happiness and immortality. Though beginning with humanity, they embody the Divine. They expand to their ultimate conceptions in the sublime attributes: the perfections of the God of Love; associating

with mortality a divine destiny commencing on earth, extending through time, pausing not at the portals of death, the gateway to eternity, but flowing onward into the realms of eternal day.

We may consider their counteracting influences, for, without doubt, by checking the selfish tendencies and restraining the animal propensities, they assist in controlling the sensual passions, and thus balance the mind and body. Such an equilibrium we call *happiness*. If the emotions be acute and vehement, they will absorb all other impressions and revel in their culminating and delightful experiences. They exhaust all the bodily energies, and a functional suspension, termed *ecstasy*, follows. It is a swooning, or fainting, a temporary loss of sensation and volition, accompanied by involuntary movements of the arms, smiting of the hands, sighing, and short ejaculatory expressions of rapture. This condition, occasioned by excessive emotion, as in praying, singing, exhortations, and sympathetic appeals, is contagious, often spreading with mysterious rapidity. Its culmination, ecstasy, is popularly termed "*the power*." When gradually induced, it is called *trance*, and each state is regarded by many as supernatural, caused by the immediate influence of the Holy Spirit. The explanation is this: when the emotive faculties are suddenly and powerfully excited, they quickly expend the organic forces, so that the individual swoons from sheer exhaustion. Undue expenditure of this class of brain functions not only consumes the bodily powers, but exhausts and prevents other mental operations. The sudden collapse of all voluntary functions resembles the fainting produced by blood-letting. We may sum up this rapid expenditure of energy in one expressive word, EXHAUSTION, which results in *Ecstasy*, or trance, and which, if carried a degree further, terminates in death. Beginning with the natural exercise of the emotions, we may state the order of sequences thus:

Ordinary exercise leads to	CALMNESS.
Proper exercise " "	HAPPINESS.
Increased exercise " "	ECSTASY.
Excessive exercise " "	SYNCOPE.
Prolonged exercise " "	TRANCE.
Fatal exercise " "	MORTALITY.
Their tendencies are	EXHAUSTIVE.

VOLITIVE FACULTIES.

What are the physiological and morbid results attending the ordinary and the immoderate exercise of the VOLITIVE FACULTIES?

The generic term *will*, comprehends those faculties, the action of which is termed *volition*. The faculties of the will are Determination, Firmness, Decision, Ambition, Authority, and Vigilance, all of which indicate strength and continuity of purpose. Bordering upon the emotions are Patience and Perseverance, while adjoining the animal faculties are Power, Coarseness, and Love of Display. The former exhibit moral, the latter animal heroism. A sense of power urges forward, whether it be higher or lower, just as the sense of greatness makes a man *great* by inspiring him with confidence to put forth exertion. Nature is truthful in her aspirations. We know that courage, assurance, and conscious power are necessary for the fulfillment of purpose, because intention precedes action. Will-power is an indication of HEALTH, and the constant exercise of these mental faculties exerts a steady, regular, and strengthening influence over the bodily functions. We translate mental energies into physiological industry. These faculties impart tone to the system, sustain the processes of nutrition, circulation, assimilation, secretion and excretion, and their distinguishing characteristics are vigor, tension, and elasticity. They temper each element of character, as well as every vital act. They infuse the organism with a resisting power which renders it proof against the influence of miasma and malaria, and overcomes that passivity and impressionability so favorable to disease. Firmness expresses a physiological cohesiveness which strongly binds together the fibers of the tissues, and renders the organization compact and powerful. He, who can skillfully employ these energies, is already master of half of the diseases incident to mankind, and wields an indispensable adjunct to medicine, in the practice of the healing art. It is the key to success, for it unlocks difficulties and opens wide the door which leads to favorable results.

Surplus energy sustains the circulation, increases capillary action, as if the excess of nerve-power were discharged from

the distant extremity of each nerve and pervaded every tissue. The voluntary muscles indicate their participation in this energy, and, indeed, the whole organism is exalted by the influence of the mental faculties. They oppose the tendencies of Feebleness, Relaxation, and Derangement, and modify their proclivities to Disease. The will is the servant of the intellect, emotions, and propensities, and the executive agent of all the faculties. When the volitive faculties are in excess, they may overdo the other functions, prematurely break down the bodily organs, and, by overtaxing the system, subject it to pain and disorder.

VOLITIVE FACULTIES.

The natural effect of FIRMNESS is physiological stability. The exercise of the volitive faculties displays both mental and bodily ENERGY.

Their tendencies are to { TEMPERANCE, SANITY, HEALTH.

ANIMAL FACULTIES.

Under this generic term we will group those cerebral powers which are common to the inferior animals, and closely allied to

Fig. 73.

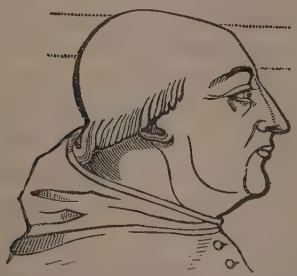


Fig. 74.

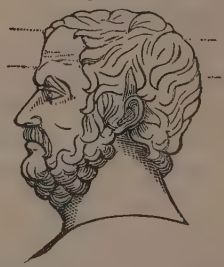


Fig. 73 is a representation of the cranial conformation of Alexander VI., exhibiting a full development of the conservative faculties. His character, according to history, brought reproach upon the papal chair.

Fig. 74 represents Zeno, a profound thinker and moral philosopher. The contrast in their cranial developments was no greater than that of their lives.

bodily conditions and necessities. As denoting a group of animal faculties they relate not only to the organic functions and self-preservation, but combat the action of the intellect,

oppose the evolution of new ideas, resist investigation, and discredit the value of truth. Adhesiveness, being blindly conservative, clings to old ideas and traditionary opinions. The animal faculties tend to stifle investigation, and put authority above truth and science. Having a fixity of nature, a stationary attachment, they treat all intellectual developments as absurd. When these faculties predominate, thought is obscured, intolerance of disposition is manifested, and mental progress is arrested. Thus they evince their conservative nature, and, since they relate to individual interests, they represent the elements of instinct. Such are the functions of Acquisitiveness, Secretiveness, Selfishness, and Combativeness, as well as the Generative powers. If these faculties predominate, all intellectual advancements are treated as experiments or theoretical novelties, and rejected as evanescent and worthless. If the promptings of these be followed, there will be no innovation, and the orthodoxy of the dark ages will remain the standard for all time The animal faculties coincide with Lethargy, Sleep, and Nutrition, thus favoring organic restoration The intellectual faculties are wakeful, active, irrepressible, while the animal powers tend to repose, sleep, and renovation, and thus suspend the activities of thought, sense, and motion The intellect expends the energy of the sensorial centers, induces fatigue and suffering, whereas the animal faculties overcome the vigils of thought, and produce refreshing slumber. Dr. Young styles sleep "tired nature's sweet restorer." Swedenborg declared that, "in sleep the brain folded itself up, and the soul journeyed through the body, repairing the wastes of the previous day." When sleep is natural, the insane are in a fair way to recovery, the sick become convalescent, ulcers granulate, and lesions are made whole.

The animal faculties are skeptical, stubborn, and dogmatic, readily combining with those of the violent class, the ultimate tendencies of which are criminal. They are likewise conceited, assuming, and clannish. Any person distinguished by them, will cling to old associations, perpetuate the status of existing parties, be a stickler for creed, ceremonies, and stale opinions, and adhere to ancient orthodoxy in medicine and religion. The animal faculties, since they are staid and regular, are naturally

antagonistic to genius, sensibility, and originality. Their mental tendencies have been fairly described and their physiological results may be represented as follows:

The animal faculties produce { Restraint, Sleep, Nutrition, Restoration, Conservation.

BASILAR FACULTIES.

The ultimate tendencies of the faculties, represented by the posterior base of the cerebrum, are violent and criminal. Being contiguous to the junction of the cerebrum and spinal system, they are subject to the influence of animal experiences. A large development of these faculties is indicated by an unusual breadth and depth of the back part of the base of the brain, and a full, thick neck, both of which denote good alimentary and digestive powers. Active nutrition, plethora of the circulation, vigorous secretion, a well developed muscular system, a large heart and lungs, are accessory conditions. We do not associate corpulence or surplus of vitality with a long, slender neck. The character of cerebral manifestations is represented by the baser faculties of mind, such as Combativeness, Destructiveness, Desperation, Turbulence, Hatred, and Revenge. If unrestrained, these culminate in violent and criminal acts; if *regulated*, they are employed in personal defense. When *unduly excited*, they lead to dissipation, obscenity, swearing, rowdyism, and licentiousness; when *perverted*, they are the source of recklessness, quarrels, frauds, falsehoods, robberies, and homicides. They are unlike instinct, inasmuch as they are not self-limiting. The intimate relation which they sustain to the stomach and nutritive functions is strikingly displayed in the habit of alcoholic intoxication. Spirituous drinks deprave the appetite, derange and destroy the stomach, poison the blood, and pervert all the functions of mind and body; and their injurious influence upon the nerves and basilar faculties is equally remarkable. They excite combativeness, selfishness, irritability, and exaggerate the influence of the animal organs. Intemperance results in disputes, fights, brawls,

and murders—the legitimate consequences of which are misunderstandings, suits at law, criminal proceedings, imprisonment, and the gallows. It is, therefore, evident that the ultimate tendencies of these faculties are tyrannical, cruel, violent, and atrocious. They are opposed to the noble, moral faculties—Faith, Love, and Devotion—and, whenever tempation inordinately allures, the course of life is likely to be characterized by dishonorable, deceptive, and treacherous conduct.

The pangs of hunger cause soldiers to act more like ravenous beasts, than rational beings. It is animal instinct which impels the soldier to seek first for the gratification of his appetite. Some persons, instigated by carnivorous desires, yearn for raw meat, and will not be satisfied unless their food is flavored with the flesh of animals. Their bodies increase and thrive, even to repletion. Contrast these individuals with pale, lean, anæmic people, who crave innutritious articles of diet, and eat soft stones, slate, chalk, blue clay, and soft coal. Such perversions of the appetite are manifested only when there is either a diminution in the volume of blood, deficient alimentation, defective assimilation, or a general depravity of the nutritive functions. Morbid conditions generate vitiating tendencies and destroy the natural appetite.

While alcoholic stimulants affect the medulla oblongata principally, opium acts chiefly on the cerebrum, and excites reverie, dreamy ideality, optical delusions, and the creative powers of the imagination; some of these hallucinations are said to be grotesquely beautiful and enjoyable. The effects of this agent differ from those of alcoholic intoxication by not deadening the moral sensibilities, or arousing the animal propensities. Opium smokers are dreamy and abstracted, not quarrelsome or violent. Those who use ardent spirits lose their moral delicacy, their intellect becomes dull, the reason cloudy, and the judgment is overruled by appetite. It is conceded that the *trophic center* is principally in the medulla oblongata; the cerebellum and lower cerebral ganglia, however, favorably influence the nutritive functions, and, when these organs are large and active, a plethoric condition is the natural consequence. Redundancy of blood in the body indicates preponderance of the basilar organs. These faculties

being vehement in character, an excess of animal characteristics produces those conditions which result in acute and inflammatory diseases. We may express these conditions of the system as follows:

The *Animal Faculties* correspond to the lower instinctive manifestations.

The elements of character are	Acquisitiveness, Selfishness, Combativeness.
They tend to	Turbulence, Crime.
They relate especially to the functions of	Alimentation, Secretion, Nutrition, Reproduction.
A large development of them indicates	Vitality, Plethora, Hyperæmia (congestion).

These naturally give rise to the following diseases: Inflammation, Rheumatism, Gout, Convulsions, etc., which, in these conditions, pursue a violent course.

REGION OF FEEBLENESS.

Although the middle lobe of the cerebrum, at the base of the brain, does not denote decided force of character, or energy of constitution, yet it has a certain sphere of normal action which is essential to the harmony of mind and body. If this region is largely developed, the constitution is languid, inefficient, sensitive, and abnormally disposed. But if it be deficient, the volitive energies preponderate, and there is a lack of those susceptibilities of constitution, which prevent excessive waste. The cerebral faculties are Fear, Anxiety, Sensibility, Servility, Relaxation, and Melancholy, and their excessive predominance indicates a weak, vacillating, irresolute character, and the existence of those bodily conditions which produce *general excitability* and chronic derangement. A full development of this portion of the brain indicates that the person is naturally dependent, inferior, and subservient to stronger characters. Such a one is fearful, fretful, complaining, irritable, dejected, morose,

and, sooner or later, becomes a fit subject for chronic disease.* The ultimate result of excessive fear, excitability, and irritability, is functional or organic derangement,—the morbid conditions represented by the word Disease. The medulla oblongata and portions of the middle lobe of the brain, the functions of which represent Excitability, Anxiety, Fear, and Irritability (symbols of physical profligacy), are located just between the ears (see Fig. 60). Inferior animals distinguished for breadth between the ears are not only cunning and treacherous, but very excitable and irritable. The head of the Fox is remarkable for its extreme width at the region of Fear. He is proverbially crafty and treacherous, always excitable, and so variable in temper that he can never be trusted. He is a very timid thief, exceedingly suspicious, irregular in habits, and frequently driven by hunger into mischievous depredations.

Fig. 75.

Sly Reynard.

The organ of alimentiveness, located directly in front of the ear, indicates the functional conditions of the stomach, which, when aroused by excessive hunger, exerts a debasing influence upon this and all of the adjacent organs, and is demoralizing to both body and mind. In obedience to the instinct of hunger, children will slyly plunder gardens and orchards, displaying profligate, if not reckless tendencies in the gratification of the appetite. In this regional division we include the medulla, the posterior and middle portions of which give rise to the pneumogastric nerve. This nerve receives branches from the spinal accessory, facial, hypoglossal, and the anterior trunks of the first and second cervical, and its filaments are distributed to the

*Certain disturbances of the bodily organs excite fear. The apprehension of danger, or simply mental excitement, does not explain what is called "water fright," "stage fright," terror excited by the raging of a storm, or the rocking of a boat. In such instances the heart may beat heavily, the respiration be irregular and attended by precordial oppression, giddiness, weakness, and physical inability to articulate a word or recall a thought. These bodily conditions are not subject to the control of the will, but arise when individuals are perfectly assured that no danger threatens. At other times, as in a fearful tempest upon the sea, although the danger be imminent, if the bodily functions are not disturbed, there is not the least manifestation of fear.

lungs, stomach, liver, spleen, pancreas, and gall bladder (see Fig. 60, with explanation) Its agency is necessary to maintain the circulation, and the respiration, since, as the medium of communication, it conveys from the brain large supplies of nervous force to sustain these vital functions. It likewise instantly reports the impressions of these physiological processes to the brain, and especially to those parts which, by analogy of functions. It likewise instantly reports the impressions of these physiological processes of the brain, and especially to those parts which, by analogy of functions, are intimately related to the stomach. Hence, we observe that the conditions of the stomach give rise to reflex impulses, which involuntarily excite the animal faculties to the gratification of the appetite. That the stomach has an intimate connection with the rest of the organism is evident from the fact that when it is inflamed the body is completely prostrated.

We have already alluded to the perverting tendencies of alcoholic stimulants. Their peculiar influence upon the cerebellum causes the subject to reel and stagger, as though a portion of that organ were removed; the group of energetic faculties is stupefied, and mental as well as corporeal lethargy is the result. The reaction, which inevitably follows, is almost unbearable, and relief is sought by repeating and increasing the poisonous draughts, the primary influence of which is stimulating, the ulterior, depressing. Alcoholic stimulants unduly excite the nervous centers, the heart, and the arteries, and, consequently, the blood is carried to the surface of the body, where it counteracts the influence of cold and exposure, the frequent attendants upon drunkenness. The use of alcoholic beverages perverts the appetite, interrupts habits of industry and destroys all force of character. Pecuniary, physical, and mental ruin, therefore, are sure to follow as the consequences of habitual, alcoholic intoxication.

That ordinary alimentation, which includes the process of digestion, the subsequent vital changes involved in the conversion of food into blood, and its final transformation into tissue, causes mental languor and dullness, as well as bodily exhaustion, is attested by universal experience. A torpid condition of the liver, one of the most inveterate of chronic derangements, is

indicated by sullenness, melancholy, despondency, loss of interest in the affairs of life, sluggishness, etc., and the ultimate tendency of this morbid state is towards *suicide*. A broad and deep development of the middle lobe of the brain, shown by a fullness under the chin, and of the adjacent portion of the neck, denotes tendencies to somnambulism, delirium, and insanity. If such characteristics of the organization do not culminate in mental derangement, they exhibit childishness, helplessness, and great dependence. Age abates the vigor of the executive faculties, and old people manifest not only bodily infirmities, but the relaxing and enfeebling influences proceeding from the lower portions of the brain. They totter about in their second childhood, mentally and physically enervated. Those who become dissipated by the use of intoxicating beverages are not only weak, trifling, and foolish, but walk with an unsteadiness which betrays their condition. These illustrations show that this part of the brain is destitute of energy. Diseases of the digestive organs also indicate it. Cholera, whether induced by invisible animalcules in the air, or in water, takes the route of the alimentary canal, opens the vital gates, and myriads of victims are swept down to death. It proves remarkably fatal to those having this cerebral conformation. Perhaps enough has been said to indicate the relaxing and enfeebling tendencies of this region of the brain. They may be classified as follows:

REGION OF FEEBLENESS.

Cerebral Functions:	Servility, Cautiousness, Fear, Anxiety, Sensibility, Cunning, Profligacy.
Physiological conditions and tendencies:	Atonic, Excitability, Relaxation, Feebleness, Disease.

This classification shows their tendencies to chronic disease, functional derangement, insanity, and suicide.

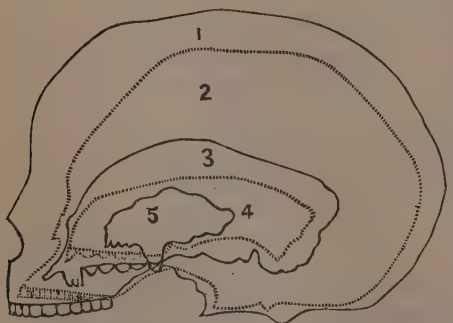
GENERAL CONSIDERATIONS.

Before the structure of the brain was understood, Buffon spoke of it as a "mucous substance of no great importance." Its functional significance was so slightly appreciated that some people hardly suspected they had any brains, until an *accident* revealed their existence. Latterly, however, it is generally understood that the perfection of an animal depends upon the number and the development of the organs controlled by the nervous system, the sovereign power of which is symbolized by a grand cerebrum, the throne of Reason. That animal which is so low in the scale of organization as to resemble a vegetable, belongs to an ascending series ending in man. The lowest species have no conscious perception, and their movements do not necessarily indicate sensation or volition. Instinct culminates in the *Articulates*, especially in Insects; while created intelligence reaches its acme in man, the highest representative of the *Vertebrates*.

> "All things by regular degrees arise—
> From mere existence unto life, from life
> To intellectual power; and each degree
> Has its peculiar necessary stamp,
> Cognizable in forms distinct and lines."—LAVATER.

Man, in the faculties of mind, possesses more than a complement for instinct; some of the lower animals, however, seem to share his rational nature, and to a certain degree become responsible to him. Finally, the manifestations of mind bear a relation to the development of cerebral substance, and to the bodily organization which supplies the brain with blood. Fig. 76 shows the relative amount of brain matter in the lower animals, compared with

Fig. 76.



Outline of Skulls. *1.* European. *2.* Negro. *3.* Tiger. *4.* Hedge Hog. *5.* Sloth.

that of man; the peculiarities of each agreeing with its cerebral conformation. It is easier to measure the capacity of skulls in different races than to procure and weigh their brains. The following table has been published.

CRANIAL CAPACITY OF HUMAN RACES.

RACE.	CUBIC INCHES.
Swedes,	100.00
Anglo-Saxons,	96.00
Finns,	95.00
Anglo-Americans,	94.30
Esquimaux,	86.32
North America Indians,	84.00
Native Africans,	83.70
Mexicans,	81.70
American Negros,	80.80
Peruvians and Hottentots,	75.30
Australians,	75.00
Gorilla, adult,	34.50
Idiot,	22.57

Mr. Davis, of England, having a collection of about eighteen hundred cranial specimens obtained from different quarters of the globe, ascertained the relative volume of brain in different races, by filling the skulls with dry sand. He found that the European averaged 92 cubic inches, the Oceanic 89, the Asiatic 88, the African 86, the Australian 81. Dr. Morton, of Philadelphia, had a collection of over one thousand skulls, and his conclusions were that the Caucasian brain is the largest, the Mongolian next in size, the Malay and American Indian smaller, and the Ethiopian smallest of all. The average weight of brain, in 278 Europeans, was 49.50 oz., in 24 White American soldiers, 52.06 oz., indicating a greater *average* for the American brain.

	OUNCES.
The brain of Cuvier, the celebrated naturalist, weighed	64.33
Ruloff, the murderer and linguist,	59.00
Dr. Spurzheim—phrenologist,	55.06
Celebrated philologist,	47.90
Celebrated mineralogist,	43.24
Upholsterer,	40.91

The weight of the human brain varies from 40 to 70 oz.; that of idiots from 12 to 36 and 40 oz. The average of 278

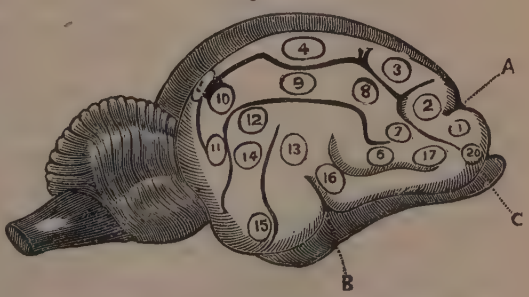
male European brains was 49½ oz., while that of 191 females was 44 oz. If we compare the weight of the female brain with that of the body, the ratio is found to be as 1:36.46, while that of the male is as 1:36.50; showing that, relatively, the female brain is the larger. It appears that neither the absolute nor relative size of the cerebrum, but the amount of gray matter which it contains, is the criterion of mental power. Although a large cerebrum is generally indicative of more gray matter than a small one, yet it is ascertained that the grey substance depends upon the number, and depth of the convolutions of the brain, and the deeper its fissures, the more abundant is this tissue. It is this substance which is the source of thought, while the white portion only transmits impressions.

We do not wish to underrate any attempt heretofore made to classify the functions of mind and assign to them an appropriate nomenclature. It is not unusual for scientists to give advice to phrenologists and point out the fallacies of their system; but it is hardly worth while to indulge in destructive criticism, unless something better is offered, as the day has passed for ridiculing endeavors to understand and interpret the physiology of the brain. The all important question is, not whether phrenologists have properly located and rightly named all the faculties of mind, but have their expositions been useful in the development of truth. While endeavoring to connect each mental power with a local habitation in the brain, the system of phrenology may be chargeable with some incongruous classification of the faculties, and yet it has furnished an analysis of the mind which has been of incalculable service to writers upon mental philosophy. Phrenology, in popularizing its views, has interested thousands in their own organizations and powers, who would otherwise have remained indifferent. It has called attention to mental and bodily unities, has served as a guide to explain the physical and psychical characteristics of individuals, and has been instrumental in applying physiological and hygienic principles to the habits of life, thus rendering a service for which the world is greatly indebted. Samuel George Morton, M. D., whose eminent abilities and scholarship are unquestionable, employs the following language:

"The importance of the brain as the seat of the faculties of the mind, is pre-eminent in the animal economy. Hence, the avidity with which its structure and functions have been studied in our time; for, although much remains to be explained, much has certainly been accomplished. We have reason to believe, not only that the brain is the center of the whole series of mental manifestations, but that its several parts are so many organs, each one of which performs its peculiar and distinctive office. But the number, locality, and functions of these several organs are far from being determined; nor should this uncertainty surprise us, when we reflect on the slow and devious process by which mankind has arrived at some of the simplest physiological truths, and the difficulties that environ all inquiries into the nature of the organic functions."

We may here allude to the recent experimental researches with reference to the functions of various portions of the brain, prosecuted by Dr. Ferrier, of England. He applied the electric current to different parts of the cortical substance of the cerebrum in lower animals which had been rendered insensible by chloroform, and by it could call forth muscular actions expressive of ideas and emotions. Thus, in a cat, the application of the electrodes at point 2, Fig. 77, caused elevation of the shoulder and adduction of the limb, exactly as when a cat strikes a ball with its paw; at point 4, corrugation of the left eye-brow, and the drawing inward and downward of the left ear; when applied at point 5, the animal exhibited signs of pain, screamed, and kicked with both hind legs, especially the left, at the same time turned its head around and looked behind in an astonished manner; at point 6, clutching movement of the

Fig. 77.



Side view of the brain of a Cat. *A*. Crucial sulcus dividing anterior convolutions. *B*. Fissure of Sylvius. *C*. Olfactory bulb.

left paw, with protrusion of the claws; at point 13, twitching backward of the left ear, and rotation of the head to the left and slightly upward, as if the animal were listening; at point 17, restlessness, opening of the mouth, and long-continued cries as if of rage or pain; at a point on the under side of the hemisphere, not shown in this figure, the animal started up, threw back its head, opened its eyes widely, lashed its tail, panted, screamed and spit as if in furious rage; and at point 20, sudden contraction of the muscles of the front of the chest and neck, and of the depressors (muscles) of the lower jaw, with panting movements. The movements of the paws were drawn inward by stimulating the region between points 1, 2, and 6; those of the eyelids and face were excited between 7 and 8; the side movements of the head and ear in the region between points 9 and 14; and the movements of the mouth, tongue and jaws, with certain associated movements of the neck, being localized in the convolutions bordering on the fissure of Sylvius (B), which marks the division between the anterior and middle lobes of the cerebrum. Dr. Ferrier made similar experiments on dogs, rabbits, and monkeys. The series of experiments made on the brain of the monkey is said to be the most remarkable and interesting, not only because of the variety of movements and distinctly expressive character of this animal, but on account of the close conformity which the simple arrangement of the convolutions of its brain bears to their more complex disposition in the human cerebrum. It is premature to say what import we shall attach to these experiments, but they have established the correctness of the doctrine, advanced on page 105, that thought, the product of cerebral functions, is a class of *reflex actions*. The cerebrum is not only the source of ideas but also of those co-ordinate movements which correspond to and accompany these ideas. Certain cerebral changes call forth mental states and muscular movements which are mutually responsive. They indicate that various functions are automatic, or dependent upon the will, and, as we have seen, experiments indicate that the electric current, when applied to the cerebrum, excites involuntary reflex action. We cannot say how far these experimental results justify the phrenological classification of the faculties of mind, by establishing a ***causative*** relation

between the physical and psychical states. This short and unsatisfactory account furnishes one fact which seems to support the claim of such a relation: the apparent similarity between the motor center of the lips and tongue in lower animals, and that portion of the human cerebrum in which disease is so often found to be associated with *Aphasia*, or loss of voice. While these experiments are by no means conclusive in establishing a theory, yet they favor it.

It is wonderful that nervous matter can be so arranged as not only to connect the various organs of the body, but at the same time to be the agent of sensation, thought, and emotion. It is amazing, that a ray of light, after traversing a distance of 91,000,000 miles, can, by falling upon the retina, and acting as a stimulus, not only produce a contraction of the pupil, but excite thoughts which analyze that ray, instantly spanning the infinitude of trackless space! The same penetrative faculties, with equal facility, can quickly and surely discern the morbid symptoms of body and mind, become familiar with the indications of disease, and classify them scientifically among the phenomena of nature. The symptoms of disease which follow certain conditions as regularly as do the signs of development, and mind itself is no exception to this uniformity of nature. Thoughts result from conditions, and manifest them as evidently as the falling of rain illustrates the effect of gravity. The perceptive and highest emotive faculties of man depend upon this simple, but marvelously endowed nervous substance, which blends the higher spiritual with the lower physical functions. The functions of the body are performed by separate organs, distinguished by peculiar characteristics. To elucidate the distinctions between dissimilar, mental faculties, we have assigned their functions, with characteristic names, to different regions of the head. As they unquestionably influence the bodily organs, we are sustained by physical analogy, in our classification. Our knowledge of the structure and functions of the nervous system is yet elementary, and we are patiently waiting for scientists to develop its facts, and verify them by experimental investigations and such researches as time alone can bring to perfection. While real progress moves with slow and measured

foot-steps, the inspirations of consciousness and the inferences of logic prepare the popular mind for cerebral analysis. No true system can contradict the facts of our inner experience; it can only furnish a more complete explanation of their relation to the bodily organs. It should be expected that such careful and pains-taking experiments, as are necessary to establish a science, will be preceded by intuitive judgments and accredited observations, which may be, for a time, the substitutes of those more abstruse in detail.

We have, in accordance with popular usage, treated the organs of thought as having anatomical relations. The views which we have presented in this chapter may seem speculative, but the facts suggesting the theory demand attention, and we have attempted to gather a few of the scattered fragments and arrange them in some order, rather than leave them to uncertainty and greater mystery. It is by method and classification that we are enabled to apply our knowledge to practical purposes. Possibly, to some, especially the non-professional, an allusion to the fact that cerebral physiology contributes to successful results in the practice of medicine, may seem to be an exaggerated pretension. None, however, who are conversant with the facts connected with the author's experience, will so regard this practical reference, for the statement might be greatly amplified without exceeding the bounds of truth. Physicians generally undervalue the nervous functions, and overlook the importance of the brain as an indicator of the conditions of the physical system, because they are not sufficiently familiar with its influence over the bodily functions. Pathological conditions are faithfully represented by the thoughts, and words, when used to describe symptoms, become the symbols of feelings which arise from disease. How few physicians there are who can interpret the thoughts, and glean, from the expressions and sentences of a letter, a correct idea of the morbid conditions which the writer wishes to portray! Each malady, as well as every temperament, has its characteristics, *and both require careful and critical analysis* before subjecting the patient to the influence of remedial agents.

In a treatise by Dr. J. R. Buchanan, entitled "Outlines of Lectures on the Neurological System of Anthropology," are

presented original ideas pre-eminently useful to the physician. His researches, and those of later writers, together with our own investigations, have greatly increased our professional knowledge. It is by such studies and investigations that we have been prepared to interpret, with greater facility, the indications of disease, and diagnose accurately from symptoms, which have acquired a deeper significance by the light of cerebral physiology. We are enabled to adapt remedies to constitutions and their varying conditions, with a fidelity and scientific precision which has rendered our success in treatment widely known and generally acknowledged. We annually treat thousands of invalids whom we have never beheld, and relieve them of their ailments. This has been accomplished chiefly through correspondence. When patients have failed to delineate their symptoms correctly, or have given an obscure account of their ailments, we have been materially assisted in ascertaining the character of the disease by photographs of the subjects. The cerebral conformation indicates the predisposition of the patient, and enables us to estimate the strength of his recuperative energies. Thus we have a valuable guide in the selection of remedies particularly suited to different constitutions. In the treatment of chronic diseases, the success attending our efforts has been widely appreciated, not only in this, but in other countries where civilization, refinement, luxurious habits, and effeminating customs, prevail. This fact is mentioned, not only as an illustration of the personal benefits actually derived from a thorough knowledge of the nervous system, but to show how generally and extensively these advantages have been shared by others.

A careful study of cerebral physiology leads us deeper into the mysteries of the human constitution, and to the philosophical contemplation of the relations of mind and body. Self-culture implies not only a knowledge of the powers of the mind, but also how to direct and use them for its own improvement, and he who has the key to self-knowledge, can unlock the mysteries of human nature and be eminently serviceable to the world. For centuries the mind has been spreading out its treasury of revelations, to be turned to practical account, in ascertaining the constitution, and determining better methods of treating

disease. Since comparative anatomists and physiologists have revealed the structure of animals and the functions of their organs, from the lowest protozoan to the highest vertebrate, the physician may avail himself of this knowledge, and thus gain a deeper insight into the structure and physiology of man. An intimate acquaintance with the physical, is a necessary preparation for the study of the psychical life, for it leads to the understanding of their mutual relations and reactions, both in health and disease.

Consciousness, or the knowledge of sensations and mental operations, has been variously defined. It is employed as a collective term to express all the psychical states, and is the power by which the soul knows its own existence. It is the immediate knowledge of any object whatever, and seems to comprise, in its broadest signification, both matter and mind, for all objects are inseparable from the cognizance of them. Hence, the significance of the terms, subjective-consciousness and objective-consciousness. People are better satisfied with their knowledge of matter than with their conceptions of the nature of mind.

THE NATURE OF MIND.

Since this subject is being discussed by our most distinguished scientists, we will conclude this chapter with an extract from a lecture delivered by Prof. Burt G. Wilder, at the American Institute:

"There now remains to be disposed of, in some way, the question as to the nature and reality of mind, which was rather evaded at the commencement of the lecture. The reason was, that I am forced to differ widely from the two great physiologists whom I have so often quoted this evening. Most people, following in part early instruction, in part revelation, in part spiritual manifestations, and in part trusting to their own consciousness, hold that the human mind is a spiritual substance which is associated with the body during the life of the latter in this world, and which remains in existence after the death of the body, and forms the spiritual clothing or embodiment of the immortal soul; and that the individual, therefore, lives after death as a spirit in the human form; that of this spiritual man,

the soul is the essential being, of which may be predicted a good or evil nature, while the mind, which clothes it as a body, consists of the spiritual substances, affections, and thoughts, which were cherished and formed during the natural life.

Together with the above convictions respecting themselves, most people, when thinking independently of theological sublimations, feel willing to admit that animals have, in common with man, fewer or more natural affections and thoughts which make up their minds, but that the inner and immortal soul, which would retain them as part of an individual after death of the body, is not possessed by the beasts that perish. In short, the vast majority of mankind, when thinking quietly, and especially in seasons of bereavement, feel well assured of the real and substantial existence of the human mind, independently of its temporary association with the perishable body.

But in antagonism to this simple and comforting faith, stand theological incomprehensibilities on the one hand, and scientific skepticism on the other. The former would have us believe that the soul is a mere vapor, a cloud of something ethereal, of which can be expected nothing more useful than 'loafing around the Throne,' while the latter asks us to recognize the existence of nothing which the eyes cannot see and fingers touch; to cease imagining that there is a soul, and to regard the mind as merely the product of the brain; secreted thereby as the liver secretes bile. Let us hear what the two leading nervous physiologists, of this country, have to say upon this point:

'The brain is not, strictly speaking, the organ of the mind, for this statement would imply that the mind exists as a force, independent of the brain; but the mind is produced by the brain substance; and intellectual force, if we may term the intellect a force, can be produced only by the transmutation of a certain amount of matter; there can be no intelligence without brain substance.'—FLINT.

'The mind may be regarded as a force, the result of nervous action, and characterized by the ability to perceive sensations. to be conscious, to understand, to experience emotions, and to will in accordance therewith. Of these qualities, consciousness resides exclusively in the brain, but the others, as is clearly shown by observation and experiment, cannot be restricted to

that organ, but are developed with more or less intensity, in other parts of the nervous system.'—HAMMOND.

Thus do the two extremes of theology and science meet upon a common ground of dreamy emptiness, and we who confess our comparative ignorance are comforted by the thought that some other things have been 'hid from the wise and prudent and revealed unto babes.' Yet, while feeling thus, it must be admitted that the existence of spirit and of a Creator do not yet seem capable of logical demonstration. The denial of their existence is not incompatible with a profound acquaintance with material forms and their operations; and, on the other hand, the belief in their existence and substantial nature, and in their powers as first causes, have never interfered with the recognition of the so-called material forces, and of the organisms through which they are manifested. At present, at least, these are purely matters of faith; but although the Spiritualist (using the term in its broadest sense as indicating a belief in spirits), may feel that his faith discloses a beauty and perfection in the union, otherwise imperceptible by him, there is no reason why this difference in faith should make him despise or quarrel with his materialist co-worker, for the latter may do as good service to science, may be as true a man, and live as holy a life, although from other motives.

The differences between religious sects are mainly of faith, not of works, and the wise of all denominations are gradually coming to the conviction that they will all do God more service by toleration and co-operation than by animosity and disunion. And so I hold that, until the spiritualist feels himself able to demonstrate to the unbeliever the existence of spirit and of God, as convincingly as a mathematical proposition, there should be no hard words or feelings upon these points. For the present they are immaterial in every sense of the word; and so long as he bows to the facts and the laws of Nature, and deals with his fellow men as he would be done by, so long will I work with him, side by side, knowing, even though I cannot tell him so, that whether or not he joins me in this world, we shall meet in the other world to come, where his eyes will be opened, and where his lips will at least acquit me of bigotry and intolerance."

CHAPTER XV.

THE HUMAN TEMPERAMENTS.

Organization implies vital energy, since there can be no organization without it. The sperm cell, as we have previously seen, exists before the initiation of the life of every individual organism. The early history of this fertilizing cell, which is composed of infinitesimal molecules which contain the embryo powers of life, is only partially written. It is a fact, authenticated by Faraday, that one drop of water contains, and may be made to evolve, as much electricity as, under a different mode of display, would suffice to produce a lightning-flash. Chemical force is of a higher order than physical, and vital force is of a still higher order. Within the microscopic compass of the sperm cell are a great number of forces acting simultaneously, which require the answering conditions of a germ cell, and are so blended as to occupy a minimum of space. The union of these subtle elements through the agency of their physical, chemical, and vital forces, constitutes the initiation of life. Elementary matter is transformed into chemical and organic compounds, by natural forces, upon the cessation of which, it is liberated by nature's great destroyer, and reappears in the world of elements. Thus, man is formed out of the very dust by means of energies which reconstruct the crude, inert matter, and to dust he returns when those energies cease.

When we enter upon the consideration of the temperaments, we should bear in mind one peculiarity of life: that it combines, in a small space, many complex powers. In the process of reproduction, there is a complex combination of organic elements. Structures differ as greatly as their functions. So

likewise do animals vary in their nature and organization, and individuals of the same species are, in some respects, dissimilar. Yet the characteristics which have distinguished the races of mankind, are fundamental and faithfully maintained. Time does not obliterate them. Within race-limits are found enduring peculiarities, and, although each individual is weaving out some definite pattern of organization, it follows the type of the race, as well as the more immediate, antecedent condition.

What then is a *Temperament* but a *mixing together* of these determining forces, a certain blending manifested in the constitution by signs, or traits, which we denominate *character*. The different races of mankind must have their several standards of temperament, for the peculiarities of one are not fully descriptive of, and applicable to the other.

The term temperament is defined by Dunglison, as being "a name given to the remarkable differences that exist between individuals, in consequence of the variety of relations and proportions between the constituent parts of the body.

For its simplicity and scope, we prefer the following definition, suggested by our friend, Orin Davis, M. D.: A TEMPERAMENT IS A COMBINATION OF ORGANIC ELEMENTS SO ARRANGED AS TO CHARACTERIZE THE CONSTITUTION.

This leads us to consider some of the elements, conditions and forces which give character to the organization. External circumstances supply necessary conditions to inward activity, for without air, food, or sunlight all living animals would perish. Everywhere, life is dependent upon conditions and circumstances; it is *not* self-generating. But the conditions of reproduction are very complex. External forces are transformed, and, in turn, become vital or formative powers. Development is a transmutation of physical and chemical forces into vital energy. Although unable to compute the ultimate factors of life, yet we may illustrate their reproductive possibilities and results by comparing them with those of a lower order.

Animal structures are mainly composed of four elements: oxygen, hydrogen, nitrogen and carbon. Other constituents, such as phosphorus, sulphur, potassium, sodium, calcium, magnesium, and iron, enter into their composition, but are

found in much smaller quantities. From these elements is fabricated an organism which manifests peculiar properties and marvelous functions. If the proportion of these chemical elements be varied, the organic compound will be changed, or, the proportions remaining the same, if the *grouping* of the elements be altered, different compounds will be produced, showing that the properties of organized substances depend upon the *molecular* constitution of matter.

Rising in the scale of organization, we observe that every variation of the physical and chemical processes implies a corresponding modification of the vital. This is verified by the peculiarities of the several races of mankind. Individual differences are likewise modifications of these processes. Dynamical or vital differentiation depends upon these modifications for the display of vital energy, and is always associated with molecular changes. But it should be borne in mind that an effect may not resemble its cause in *properties*, and the *qualities* of a chemical compound may be quite different from those of its individual constituents. Organic matter, although more complex, may exhibit properties, both like and unlike its constituent elements. Within certain boundaries, the elements seek to satisfy their affinities. We discover that there are limits between the genera of animals, as well as the races of mankind. Not less really, though perhaps not as absolutely, are there individual precincts within the sphere of the human temperaments, which cannot be passed.

If we cannot satisfactorily explain, we can at least discover a reason for temperamental limitation. It is not designed to circumscribe healthful reproduction, but to serve as an effectual hindrance to abnormal deviations. We may state our belief in more positive terms: that the temperamental variations are essential to *genesis* and *fertility*, and indispensable to *health* and *normal development*.

Every individual is susceptible to impressions which dispose to action. Impressions which excite or increase this disposition, are called *stimuli*. Vital change implies the existence of *stimuli* and *susceptibility* to stimulation. The stimulus may not be furnished because the conditions on which it depends are wanting; again, susceptibility may exist at one time and not

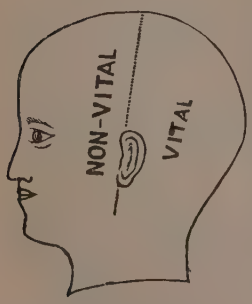
at another. Stimuli and susceptibility may be present in different degrees, but for the purpose of healthful reproduction they must not be impaired. No single class of foods, albuminous, starchy, saccharine, or mineral, is sufficient for the nutrition of the body, but the food must contain substances belonging to each of the different classes. If an animal be fed exclusively upon albumen, though this substance constitutes the largest part of the bodily mass, exhaustion will rapidly follow, since the food does not contain all the essential, nutritive elements. Again, when the solids of the body have been wasted, they lose their susceptibility to stimuli, and the food does no good. Thus patients become emaciated during acute attacks of disease, upon the cessation of which they are too feeble to recover, simply because they have lost the power to digest and assimilate their food.

In inanimate bodies, as in crystals, forces come to rest, but the very idea of life implies action and continual change. Hence diversity of constitutions and different temperaments are essential in order that marriage may result in the reproduction of vigorous beings.

VITAL AND NON-VITAL TEMPERAMENTS.

In the preceding chapter, we attempted to illustrate the unique blending of mind and body by means of the nervous system, and we now propose to exemplify the physical conditions of the organism by certain correspondences, observed in the development and conditions of that system. If nature answer to mind in physical correspondences, she will observe the same regularity in physical development. The simplest classification of the temperaments is represented in Fig. 78. Not only is mental activity dependent upon a vital activity in the brain, but the development of the cerebrum is dependent upon the supply of blood. The growth of the intellect requires the same conditions that aided in the

Fig. 78.



development of Vulcan's right arm: waste and supply; disintegration and reparation of tissue. Our modern iron forges produce many an artisan whose great right arm proclaims him to be a son of power as well as of fire. Thus the fervid intellect, while forging out its thoughts, increases in size and strength. The difference between the development of the two is this; that the exercise of the blacksmith's right arm quickens the activities of all the bodily functions, whereas the employment of the intellect does not offer any healthy equivalent. Physical exercise is a hygienic demand, but intellectual employment exerts no salutary influence on the body, while it is constantly expending the nutritive energies of the blood. The emotions, likewise, make exhaustive draughts upon nutrition to supply the waste of brain substance, just as certainly as physical labor causes muscular change, and demands reparation. One expends cerebral, the other, muscular substance. The one is healthful in its general tendencies, the other, comparatively wasteful and destructive.

The intellectual faculties are { DISINTEGRATING, EXPENDING, DERIVING.

The emotive faculties are { ENGROSSING, EXHAUSTING, DEVITALIZING.

These nervous forces are transformed into spiritual products.

The base of the anterior lobes of the brain belong to the atonic region—the source of those languid, deranging influences which coincide with morbidity and disease. A disturbance of the corporeal organs, which especially influence this portion of the brain, naturally tends to the development of insanity or imbecility. Morel has traced, through four generations, the family history of a youth who was admitted to the asylum at Rouen while in a state of stupidity and semi-idiocy. The following summary of his investigations illustrates the natural course of degeneracy as it extends through successive generations: immorality, depravity, alcoholic excess, and moral degradation, in the great-grandfather, who was killed in a tavern brawl; hereditary drunkenness, maniacal attacks, ending in general paralysis, in the grandfather;

sobriety, but hypochondriacal tendencies, delusions of persecutions, and homicidal tendencies in the father; defective intelligence in the son. His first attack of mania occurred at sixteen, and was followed by stupidity, and finally ended in complete idiocy. Furthermore, there was probably an extinction of the family, for the son's reproductive organs were as little developed as those of a child of twelve years of age. He had two sisters who were both defective physically and morally, and were classed as imbeciles. To complete the proof of heredity in this case, Morel adds that the mother had a child while the father was confined in the asylum, and that this child exhibited no signs of degeneracy. Statistics show that multitudes of human beings are born with a destiny against which they have neither the will nor the power to contend; they groan under the worst of all tyrannies, the tyranny of a bad organization, which is theirs by inheritance. We may represent the tendencies of the anterior portion of the brain by Fig. 79. The functional exercise of the anterior and superior portions of the cerebrum is *disintegrating* and *devitalizing*, while the anterior and inferior portions coincide with mental and physical derangement, unless counteracted by opposing forces. It is therefore evident that in any organization, upon which is entailed a perverted or excessive action of this portion of the cerebrum, the tendencies are NON-VITAL, *i. e.*, unfavorable to fertility and physical health.

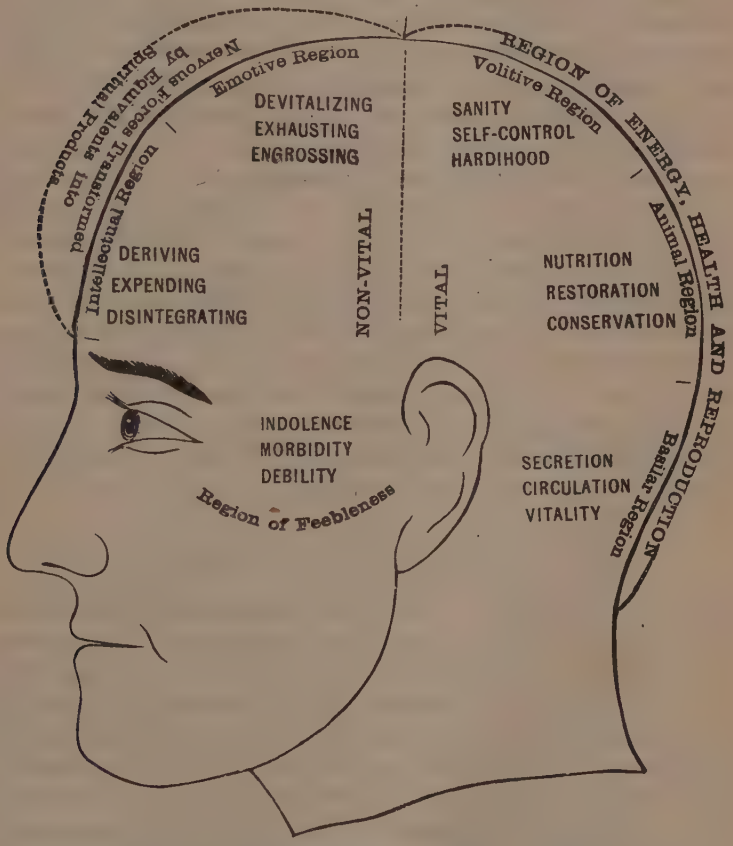
If the antagonizing regions are well developed, the tendencies are favorable to life.

The volitive organs promote	SANITY, TEMPERANCE, HARDIHOOD.
The animal organs tend to	NUTRITION, RESTORATION, CONSERVATION.
The basilar faculties instigate	SECRETION, CIRCULATION, VITALITY.
The combined action of these faculties express	ENERGY, HEALTH, REPRODUCTION.

If this portion of the brain indicates a full development, we

say of such a temperament that it is VITAL, because the functions of its nerve-centers are favorable to evolution. As degeneration observes conditions, so endurance and development conform to certain laws, and it is the duty of all truthful inquirers, who

Fig. 79.



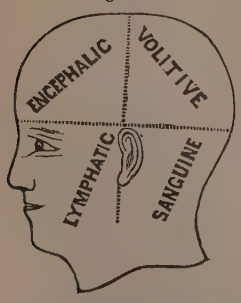
believe not only in the progress of human intelligence, but in physical improvement from generation to generation, to ascertain and comply with these essential conditions. When the anterior and middle lobes of the brain are fully developed at their inferior surfaces, it is regarded as an insane temperament, *i. e.*, containing the germs of mental and bodily derangement.

How shall we distinguish the combination of organic elements, if not by the manner in which they characterize the constitution? Every human being is distinguished by natural peculiarities, both mental and physical. These are indicated not only by the color of the eyes, hair, and skin, and the mental expressions, but in the conformation and capabilities of the corporeal system. The color, form, size, and texture of a leaf indicate to the expert pomologist the nature of the fruit which the tree will bear, but how much more important is it to understand the harmonies of human development. If Prof. Agassiz could determine the form and size of a fish by seeing its scales, and Prof. Owen outline the skeleton of an unknown animal by viewing a portion of its fossil, why should not the physician understand the language of temperaments, since it opens to him the revelations of human development? The sculptor blends character with form, the artist endows the face with natural expression, the anatomist accurately traces the nerves and arteries, the physiognomist reads character, which the novelist delineates and the actor personates, because there are facts behind all these, the materials wherewith to construct a science. In organization there are permanent forces which operate uniformly, thus revealing the order of nature.

THE TEMPERAMENTS CLASSIFIED.

We propose to speak of four constitutional variations entitled to separate consideration; the lymphatic, the sanguine, the volitive, and the encephalic. The brain controls all the voluntary, and modifies the involuntary functions of the body. A particular cerebral development modifies the functions of all the bodily organs, and thus tempers the constitution. We shall, therefore, base our classification of temperaments upon the mental and physiological characteristics, which are portrayed by cerebral development. Such an arrangement is illustrated by Fig. 80.

Fig. 80.



THE LYMPHATIC TEMPERAMENT.

The lymphatic temperament predominates when the anterior base of the brain and the middle lobe are developed so as to exert a preponderating influence over the bodily functions. The character of this influence we have described in cerebral physiology. It is difficult to state precisely the normal influences and nerve-forces which arise from these faculties, but it is evident that they are specially related to nutritive attraction, in opposition to volitive repulsion. It is only their excessive influence which produces worthless, miserable, morbid characters. A constitution marked by this development is indolent, relaxative, and an easy prey to epidemics. This treatment is also characterized by a low grade of vitality or resistance. When life is sustained by the volitive powers, it is distinguished by a softness of the bodily tissues, and the prevalence of lymph. The fact that all the organic functions are performed indolently, indicates lack of vital power. An excellent illustration of this temperament is found in Fig. 81, which represents a Chinese gentleman of distinction. In the lower order of animals, as in sponges, absorption is performed by contiguous cells, which are quite as effortless as in plants. Because of their organic indolence, sponges are often classed as vegetables. A body having an atonic or a lymphatic temperament is abundantly supplied with absorbent organs, which are very sluggish in their operations. In the lymphatic temperament, there seems to be less constructive energy, slower elaboration, and greater frugality. Lymph is a colorless or yellow fluid containing a large proportion of water. It is not so highly organized as the blood, but resembles it, when that fluid is deprived of its red corpuscles. In the sanguine temperament, circulation in the blood-vessels is the most active, in the lacteals next, and in the lymphatics the least so, but in the lymphatic temperament, this order is reversed.

Dr. W. B. Powell has observed that a lymphatic man has a large head, while a fat man has a small one, and also that fat and lymph are convertible, one following the other, *i. e.*, "a repletion consisting of fat may be removed, and one of lymph may replace it, and *vice versa*." He could not account

for these alternations. The bear goes into his winter quarters, sleek and fat, and comes forth in the spring just as plump with lymph, but he loses this fat appearance soon after obtaining food. This simply indicates that, during lymphatic activity, the digestive organs are comparatively quiescent. But when these are functionally employed again, lymphatic economy is not required. It is the duty of the lymphatics to slowly convert

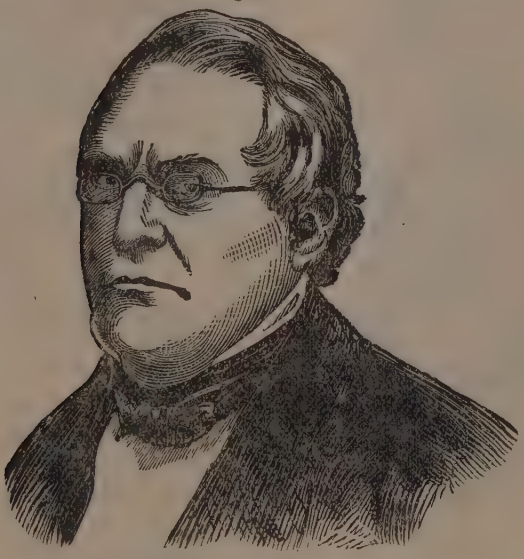
Fig. 81.

the fat by such transformation, that when it reaches the general circulation, it may there unite with other organic compounds, the process being aided by atmospheric nitrogen, introduced during the act of respiration. In this way it may become changed into those chemically indefinite, artificial products, called proteid compounds. This view is supported by the disappearance of fat as an organized product in the lymph of the lymphatic vessels, indicating that such transformation has occurred. In this way, by uniting with other organic compounds,

it appears that lymph may serve as a weak basis for blood; that atmospheric nitrogen is also employed in forming these artificial compounds, is indicated by the fact that there is sometimes less detected in arterial than in venous blood.

This temperament is indicated by lymphatic repletion, soft flesh, pale complexion, watery blood, slow and soft pulse, oval head, and broad skull, showing breadth at its base. Fig. 82 illustrates this temperament combined with sanguine elements.

Fig. 82.



Judge Green, of the United States Court.

In all good illustrations of this temperament, there is a breadth of the anterior base of the skull extending forward to the cheek bones. There is likewise a corresponding fullness of the face under the chin, and in the neck, denoting a large development of the anterior base of the cerebrum. The cerebral conformation of the Hon. Judge Green indicates mental activity, and we have no reason to suppose that lymph was particularly abundant in his brain.

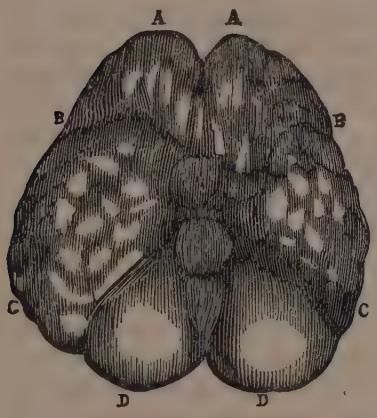
While this description of the lymphatic temperament is correct, when illustrated by the civilized races of men who are

accustomed to luxury, ease, and an abundance of food, it does not apply with equal accuracy to the cerebral organization of the American Indian. His skull, though broad at its anterior base, and high and wide at the cheek bones, differs from the European in being broader and longer behind the ears. Fig. 83 is an excellent representation of a noted North American Indian. While a great breadth of the base of the brain indicates morbid susceptibilities, yet these, in the Indian, are opposed by a superior height of the posterior part of the skull. Consequently, he is restless, impulsive, excitable, passionate, a wanderer upon the earth. The basilar faculties, however, are large, and he is noted for instinctive intelligence. His habits alternate from laziness to heroic effort, from idleness and quiet to the fierce excitement of the chase, from vagabondism to war, sometimes indolent and at other times turbulent, but under all circumstances, irregular and unreliable. In this case, lacteal activity is greater than lymphatic, as his nomadic life indicates. Nevertheless, he manifests a morbid sensibility to epidemic diseases, especially those which engender nutritive disorders and corrupt the blood. Figs. 84 and 85 represent the brain of an American Indian, and that of a European, and show the remarkable difference in their anatomical configuration. Evidently it is a race-distinction. Observe the greater breadth of the brain of the Indian, which according to cerebral physiology indicates great alimentiveness, indolence, morbid sensibility, irritability, profligacy, but also note that it *differs materially in the proportion of all its parts*, from the European brain. Judging the character of the Indian from the aforesaid representation, we should say that he was cunning, excitable, treacherous, fitful, taciturn, or violently demonstrative. His constitution is very susceptible to diseases of the bowels and blood. His appetite is ungovernable, and his

Fig. 83.

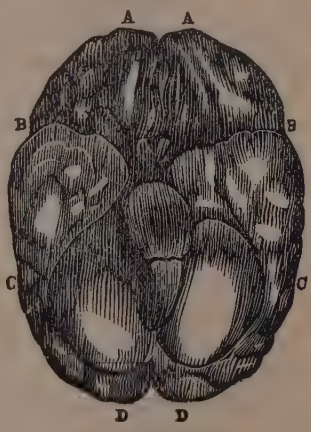
love of stimulants is strong. Syphilitic poison, small-pox, and strong drink will annihilate all these tribes sooner than gunpowder. Their physical traits of constitution are no less contradictory than their extremes of habit and character, for while there is evidence of lymphatic elements, yet it is contra-

Fig. 84.



American Indian.

Fig. 85.



European.

(From Morton's Crania Americana.)

In the American Indian, the anterior lobe, lying between *A A*, and *B B*, is small, and in the European it is large, in proportion to the middle, lying between *B B* and *C C*. In the American Indian, the posterior lobe, lying between *C* and *D* is much smaller than in the European. In the Indian, the cerebral convolutions on the anterior lobe and upper surface of the brain, are smaller than the European. If the anterior lobe manifests the intellectual faculties—the middle lobe the propensities common to man with the lower animals—and the posterior lobe, the conservative energies, the result seems to be, that the intellect of the American Indian is comparatively feeble—the European, strong; the animal propensities of the Indian will be great—in the European, more moderate; while reproduction, vital energy, and conservation of the species in the Indian is not as great as with the European. The relative proportions of the different parts of the brain differ very materially.

dicted by the color of the hair, eyes, and skin. This peculiar organization will not blend in healthful harmony with that of the European, and this demonstrates that the race-temperaments require separate and careful analytical consideration.

By physical culture and regulation of the habits, the excessive tendencies of this temperament may be restrained. Solid food should be substituted for a watery diet. If it be limited

in quantity, this change will not only diminish the size, but increase the strength of the body. The body should be disciplined by daily percussion until the imperfectly constructed cells, which are too feeble to resist this treatment, are broken and replaced by those more hardy and enduring. Add to this treatment brisk, dry rubbing, calisthenic exercises, and daily walks, which should be gradually extended. Continue this treatment for three months, and its favorable effects upon the temperament will surprise the most skeptical; if continued for a year, a radical alteration will be effected, and the hardihood, health, and vigor of the constitution will be greatly increased.

This temperament may be improved physiologically, by being blended with the sanguine and volitive. The offspring will be stronger, the structures firmer, the organization more dense. Nutrition, assimilation, and all the constructive functions will be more energetic in weaving together the cellular fabric of the body. The sanguine temperament will add a stimulus to the organic activities, while the volitive will communicate manly, brave, and enduring qualities. When this temperament is united with the encephalic, if such a union does not result in barrenness, it adds *expending* and *exhaustive* tendencies to the *enfeebling* ones already existing, and, consequently, the offspring lacks both physical power and intellectual activity.

The peculiarities of this temperament are observed in the diseases which characterize it. It is specially liable to derangements of digestion, nutrition, and blood-making. The blood is easily poisoned by morbid products formed within the body, as well as by those derived from the body of another. This is seen in pyæmia, produced by the introduction of decomposing pus, or "matter," into the blood. This condition is most likely to occur when the vital powers are low and the energies weak, for then the fibrin decreases, the red corpuscles diminish in number, the circulation becomes languid, the pulse grows fluttering and weak, and this increases until death ensues. An individual of this temperament is more easily destroyed than any other by the poison of syphilis, small-pox, and other contagious diseases. If the blood has received any hereditary taint, the lymphatic glands not only reproduce it but often increase the virulency of the original disease. This temperament indicates

a necessity for the employment of stimulating, alterative, and anti-septic medicines. The torpid functions need arousing, the blood needs depuration, *i. e.*, the elimination of corrupting matter, and the system requires alteratives to produce these salutary changes. The secretions need the correcting influence of cleansing remedies for the purification of the blood.

Persons of this temperament are more liable to absorption of morbid products within the body, which are in a state of decomposition, producing an infection of the blood, technically termed *septicæmia*. The fatal results which so suddenly follow child-bed fever are thus produced. This kind of poisoning sometimes takes place from the absorption of decomposed exudation in diphtheria, and, though rarely, from decomposing organic products collected in the lungs. Whenever the absorption of poison does take place, fatal consequences usually follow.

This passive temperament is more likely to sink under acute attacks of disease, especially alimentary disorders, such as diarrhea, dysentery, and cholera. It quickly succumbs to their prostrating effects, such as depression, congestion, and fatal collapse which rapidly succeed one another. Venesection and harsh purgatives are contra-indicated, and the physician who persists in their employment kills his patient. How grateful are warmth and stimulating medicines! The most powerful, diffusible, and nervous stimulants are required in cholera, when the system is devastated by the disease, as the plain is laid waste by the fierce tornado.

THE SANGUINE TEMPERAMENT.

Lymph is the characteristic of the lymphatic temperament, and its specific gravity, temperature, and standard of vitality are all lower than that of red blood. In the sanguine temperament all the vital functions are more active, the blood itself has a deeper hue, its corpuscles carry more oxygen, the complexion is quite florid, and the arterial currents impart to every faculty a more hopeful vigor. The blood-vessels are the most active absorbents, eagerly appropriating nutritive materials for the general circulation, while the respiration adds to it oxygen, that agent which makes vital manifestation possible. This temperament exhibits greater sensibility, the

conceptions are quicker, the imagination more vivid, the appetite stronger, the passions more violent, and there is found every display of animal life and enjoyment.

A full development of the basilar faculties, indicated by an unusual breadth and depth of the base of the brain, accompanies this temperament. Its cerebral area includes the posterior and inferior portions of the cerebrum, the entire cerebellum, and that part of the medulla which connects with the spinal cord, all of which sustain intimate relations to vital conditions. Accordingly, such a development indicates good digestion, active nutrition, vigorous secretion, large heart and lungs, powerful muscles, and surplus vitality. The violent faculties, such as Combativeness, Destructiveness, and Hatred, are natural adjuncts, and their excess tends to sensuality and crime. They are not only secretive, appropriative, selfish, and self-defensive, but when redundant are aggressive and tend to destructiveness, the gratification of animal indulgence, intemperance, and debauchery. The correspondence between the cerebral conformation and the physical development is very obvious. Lower orders of animals possess these faculties, and their spontaneous exhibition is called instinct. They possess the acquisitive, destructive, and propagative propensities, which lead them to provide for their wants and secure to themselves a posterity. The exercise of their bodies causes a continual waste which demands incessant reparation, and they are governed measurably by these animal impulses.

All of these lower psychical faculties have a physiological significance. Acquisitiveness functionally expresses assimilation, accretion, animal growth, and tends to bodily repletion. Secretiveness expresses concealing, separating, withdrawing, and functionally signifies secretive action. Secretion is the separating and withdrawing from the blood some of its constituents, as mucus, bile, saliva, etc. This latter process indicates complex conditions of organization, so that the higher and more complex the tissue, the greater the number of secretory organs. Unrestrained selfishness, while it naturally conserves the individual interests, in its ultimate tendencies, is the very essence of human depravity. Without qualification, clearly, it is crime, for blind devotion to the individual must be in

utter disregard for the good of others. The ultimate tendencies of these faculties are, therefore, criminal.

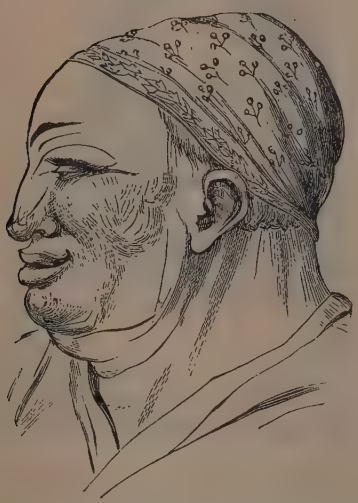
Exaggerate the faculty of acquisitiveness, and it becomes avariciousness. Develop secretiveness and selfishness, and they become cunning and profligacy, desperation and crime. Their functional development tends to produce physical disorder and violent disease. All of these faculties are vehement, contentious, thriving by opposition. Life itself has been called a forced state, because it wars with the elements it appropriates, and transmutes their powers into vitality.

We find men and women of this temperament, who are models of character and organization. George Washington is an excellent illustration. The impression that his presence made upon the Marquis de Chastellux, is given in the following words: "I wish only to express the impression General Washington has left on my mind; the idea of a perfect whole, brave without temerity, laborious without ambition, generous without prodigality, noble without pride, virtuous without severity." Gen. Scott, Lord Cornwallis, Dr. Wistar, Bishop Soule, John Bright, Jenny Lind Goldsmidt, and Dr. Gall are good representatives of this temperament. Fig. 86 is an excellent illustration of it, finely blended and well balanced, in the person of Madame de Stael. This temperament requires fewer tonics and stimulants than the lymphatic. This constitution is best able to restore vital losses. It is a vital temperament, in other words, it combines favorably with all the others, and better adapts itself to their various conditions. Some regard it as the best adjusted one in all its organs and tissues, and as the most satisfactory and serviceable.

Fig. 86.

Excess of nutrition tends to plethora, to animal indulgence, and gross sensuality. Not only do the propensities rouse desire, but they excite the basilar faculties, and portray their wants in the outlines of the face, mould the features to their expression, and flash their significance from the eye. Who can mistake the picture of sensuality represented by Fig. 87? It is enough to shock the sensibility of a dumb animal, and to say that such a face has a beastly look, is an unkind reflection upon the brute creation. A large neck and corresponding development of the occipital half of the brain indicate nervous energy, yet nutrition is not absolutely dependent upon it, for the nutritive processes are active before a nervous system is formed. The lower faculties of the mind exert a remarkable influence over nutrition, secretion, and the molecular changes incident to life. Anger or fear may transmute the mother's nourishing milk into a virulent poison. The following incident, taken from Dr. Carpenter's Physiology, illustrates this statement: "'A carpenter fell into a quarrel with a soldier billeted in his house, and was set-upon by the latter with his drawn sword. The wife of the carpenter at first trembled from fear and terror, and then suddenly threw herself between the combatants, wrested the sword from the soldier's hand, broke it in pieces, and threw it away. During the tumult, some neighbors came-in and separated the men. While in this state of strong excitement, the mother took up her child from the cradle, where it lay playing, and in the most perfect health, never having had a moment's illness; she gave it the breast, and in so doing sealed its fate. In a few minutes the infant left-off sucking, became restless,

Fig. 87.



panted, and sank dead upon the mother's bosom. The physician who was instantly called-in, found the child lying in the cradle, as if asleep, and with its features undisturbed; but all resources were fruitless. It was irrecoverably gone.' In this interesting case, the milk must have undergone a change, which gave it a powerful sedative action upon the susceptible nervous system of the infant."

Anxiety, irritation, hatred, all tend to the vitiation of the disposition and bodily functions, perverting the character and constitution at the same time. Depravity of thought and secretion go together. Degradation of mind and corruption of the body are concomitants. There is a very close affinity between mental and moral perversion and physical prostitution, of which fact too many are unconscious. Nervous influence preserves the fluidity of the blood and facilitates its circulation, for it appears that simple *arrestment* of this influence favors the coagulation of the blood in the vessels; clots being found in their trunks within a few minutes after the brain and spinal marrow are broken down. Habitual constipation is the source of many ills. Perversion of the functions of the stomach, and of the circulation of the blood, produce general disaster.

Diseases which characterize this temperament are acute, violent, or inflammatory, indicating repletion and active congestion; intense inflammation, burning fevers, severe rheumatism, a quick, full pulse, great bodily heat, and functional excitement are its morbid accompaniments. These diseases will bear thorough depletion of the alimentary canal, active, hydragogue cathartics being indicated. Sedatives and anodynes are also essential to modify the circulatory forces, and to relieve pain. Violent disturbance must be quelled, and among the remedial agents required for this duty we may include Veratrum, Ipecac, Digitalis, Opium, Conium, and Asclepias. While equalizing the circulatory fluids, restoring the secretions, and thoroughly evacuating the system, and thus endeavoring to remove disturbing causes, we find that the conditions of this temperament are exceedingly favorable for restoration to health. True, many chronic diseases are obstinate, yet a course of restorative medication persistently followed, promises a fortunate issue in this tractile temperament.

Hygienic management of the lymphatic and sanguine temperaments consists in the vigorous toning of the former, while restraint of the latter will greatly exempt it from the anxieties, contentions, and vexations which excite the mind, disturb the bodily functions, and end in chronic disease. People of the latter organization love mental and physical stimulants, are easily inflamed by passion, and their excitability degenerates into irritability, succeeded by serious functional derangements, which prematurely break down the individual with inveterate, deep-seated disorder. Serenity, hope, faith, as well as firmness, are natural hygienic elements. It is a duty we owe ourselves to promptly relinquish a business which corrodes with its cares, and depresses with its increasing troubles. Constant solicitude, and the apprehension of financial disaster, frustrate the bodily functions, disconcert the organic processes, and lead to mental aberration as well as physical degeneracy. Melancholy is chronic, while despair is acute mania, whose impulses drive the victim desperately toward self-destruction. The chronic derangement of these organs exerts with less force the same morbid tendency. Hence the necessity for exercising those hygienic and countervailing influences born of resolution, assurance, and confident trust, and the belief which strengthens all of the vital operations.

Doubtless, this temperament is the source of the reproductive powers. It is the corner-stone essential to the foundation of all other temperaments. It has been supposed by some that the cerebellum is the seat of sexual instinct. The fact appears that an ample development of the posterior base of the cerebrum and the cerebellum indicates nutritive activity, which is certainly a condition most favorable to the display of amativeness. In a double sense, then, this temperament is a vital one; both by nutritive repletion, and by reproduction. It is the blood-manufacturing, tissue-generating, and body-constructing temperament, causing growth to exceed waste, and promptly repairing the wear which follows continual labor.

While the sleazy structures of the lymphatic temperament are favorable to the functions of transudation, exhalation, and mutual diffusion of liquids, the sanguine, as its name indicates, is adapted to promote the circulation of the blood, to favor

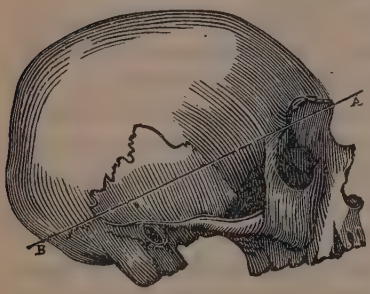
nutrition and reproduction. The former temperament does not move the world by its energies, or impress it vividly with its wisdom, and the latter is more enthusiastic, enjoyable, and quickening. Each temperament, however, possesses salient qualities and advantages.

THE LIFE LINE.

Dr. W. B. Powell, in his work on "The Human Temperaments," announces the discovery of a measurement which indicates the tenacity of life, and the vital possessions of the individual. He has observed that some persons of very feeble appearance possess remarkable powers of resistance to disease, and continue to live until the machinery of life literally wears out. Others, apparently stronger and more robust, die before the usual term of life is half completed. He also noticed that some families were remarkable for their longevity, while others reached only a certain age, less than the average term of life, and then died. He remarked also that some patients sank under attacks of disease, when, to all appearances, they should recover, and that others recovered, when, according to all reasonable calculations, they ought to die. He, therefore, not only believed that the duration of human life was more definitely fixed by the organization than is supposed, but he set himself to work to discover the line of life, and the measure of its duration. He made a distinction between vital vigor, and vital tenacity. *Vital vigor* he believed to be equivalent to the condition of vitality, which is indicated by the breadth of the brain found in the sanguine temperament; and *vital tenacity* to be measured by the *depth* of the base of the brain. Dr. Powell was an indefatigable student of nature, and followed his theory through years of observation, and measured hundreds of heads of living persons, in order to verify the correctness of the hypothesis. His method of measuring the head may be stated as follows: He drew a line from the occipital protuberance on the back of the head to the junction of the frontal and malar bones, extending it to a point above the center of the external orbit of the eye, near the termination of the brow. Then he measured the distance between this line and the orifice of the

ear and thus obtained the measure indicating the vital tenacity or duration of life. Fig. 88 is a representation of the skull of Loper, who was executed for murder in Mississippi. He might have attained a great age, had not his violent and selfish faculties led him into the commission of crime. In this illustration, B represents the occipital protuberance, and A the junction of the frontal and malar bones at the external angle of the eye. The distance between this line (A B) and the external orifice of the ear, is the measure of the life-force of Loper at the time of his execution.

Fig. 88.



The tenacity of an individual's life, Dr. Powell determined by the following scale of measurements: three-fourths of an inch from the orifice of the ear to the life-line, is the average length in the adult, and indicates *ordinary* tenacity of life. As the distance decreases to five-eighths, one-half, or three-eighths of an inch, vital tenacity diminishes. If the distance is more than three-quarters of an inch, it denotes great vital endurance, excellent recuperative powers, and is indicative of longevity. If it measures less than half an inch, it shows that the constitution has a feeble, uncertain hold upon life, and an acute disease is very likely to sunder the vital relations. Dr. Powell contended that "life force and vital force are not equivalent terms, because much more vital force is expended upon our relations, than upon our organization in the preservation of life. Every muscular contraction, every thought,

Fig. 89.

and every emotion requires an expenditure of vital force." He asserted that we *inherit* our life force or constitutional power, and that we can determine by this *life-line*, the amount which we so receive. And he believed that it could be increased by *intellectual* effort, just as we can increase vital force by *physical* exercise. Fig. 89 represents the skull of a man who died, at nearly the same age as Loper, of consumption, in the Charity Hospital, at New Orleans. The measurement of the skull in this case gives a space between the life-line and the orifice of the ear of one-sixteenth of an inch, showing that the consumptive had lived the full term of his life. Dr. Powell contended that the depth of a man's brain may be increased after maturity; muscular effort, mental activity, and a sense of responsibility being favorable to longevity, while idleness and dissipation are adverse to it. In justice to the Doctor, we have stated fully his theory and his method of determining the hardihood and endurance of the constitution, and we bespeak for it a candid examination. Without doubt it embodies a great deal of truth. Hereafter we shall endeavor to indicate by cerebral configuration, a better system of judging of the vital tenacity, hardihood, and constitutional energies, both inherited and acquired.

THE VOLITIVE TEMPERAMENT.

By reference to Figs. 72 and 80, the reader will be able to locate the region of the volitive faculties, previously described under the generic term *will*. This temperament is characterized by ambition, energy, industry, perseverance, decision, vigilance, self-control, arrogance, love of power, firmness, and hardihood. These faculties express concentration of purpose and their functional equivalents are power of elaboration, constructiveness, condensation, firmness of fiber, compactness of frame, and endurance of organization. The pulse is full, firm, and regular, the muscles are strong and well marked, the hair and skin dark, the temporal region is not broadly developed, the face is angular, its lines denoting both power of purpose and strength of constitution, with resolution and hardihood blended in the expression. The volitive temperament is distinguished by height of the posterior, superior occipital region, called the

crown of the back head, and by corresponding breadth from side to side. The rule given by Dr. J. R. Buchanan applies not only to the convolutions, but to the general development of the brain; *length gives power, or range of action*, and *breadth gives copiousness, or activity of manifestation.* Thus a high, *narrow* back head indicates firmness and decision, but it is not as constant and copious in its manifestation as when it is associated with breadth. An individual having a narrow, high head, may determine readily enough upon a course of action, but he requ'res a longer period for its completion than one whose head is both high and broad. Such a cerebral conformation cannot accomplish its objects without enjoying regular rest, and maintaining the best of habits. Breadth of this region of the brain indicates ample resources of energy, both psychical and physical. It denotes greater vigor of constitution, one that continually generates volitive forces, and its persistency of purpose may be interpreted as functional tenacity. Inflexibility of will and purpose impart their tenacious qualities to every bodily function. The *will* to recover is often far more potent than medicine. We have often witnessed its power in restraining the ravages of disease. The energetic faculties, located at the upper and posterior part of the head, are the invigorating, or *tonic* elements of the constitution, imparting hardy, firm, steady, and efficient influences, checking excess of secretion, repressing dissipation, and tending to maintain self-possession, as well as healthy conditions of life. Fig. 90 is a portrait of U. S. Grant, which shows a well-balanced organization, with sufficient volitive elements to characterize the constitution.

Fig. 90.

The old term *bilious temperament* might possibly be retained

in deference to long usage, did it not inculcate a radical error. *Bilious* is strictly a medical term, relating to bile, or to derangements produced by it, and it was used originally to distinguish a temperament supposed to be characterized by a predominance of the biliary secretion. In the volitive temperament, the firm, tenacious, toning, and restraining faculties *repress*, rather than *encourage* biliary secretion, and hence the necessity for administering large doses of cholagogues, remedies which stimulate the secretion of bile. When the system is surcharged with bile, from a congested condition of the liver, we use these agents in order to obtain necessary relief. In this temperament there is moderate hepatic development, lack of biliary activity, deficiency in the secretion of bile, and a sluggish portal circulation. Therefore, to apply the term bilious to this temperament is not only unreasonable, but it is calculated to mislead. The condition of the bowels is generally constipated, the skin dark and sometimes sallow. For these and other obvious reasons, we dismiss the word *bilious*, and substitute one which is more characteristic.

We will not dwell upon the volitive as *psychical* organs, except to show that, when their influence is transmitted to the body, they act as *physiological* organs, and thus demonstrate that all parts of the brain have their physiological, as well as mental functions. When Andrew Jackson uttered with great emphasis the memorable words, "BY THE ETERNAL," the effect was like a shock from a galvanic battery, thrilling the cells in his own body, and paralyzing with fear every one in Calhoun's organization. This is an illustration of the power or range of action of these faculties. Breadth or copiousness is illustrated in Gen. Grant's reply, "I PROPOSE TO FIGHT IT OUT ON THIS LINE, IF IT TAKES ALL SUMMER." Such a temperament has a profusion of constitutional power, great durability of the life-force, and, in our opinion, the combined height and breadth of this region correctly indicate the natural hardihood of the body and its *retentiveness of life*. No one need doubt its influence upon the sympathetic system, and, through that system, its power over absorption, circulation, assimilation, and secretion, as well as the voluntary processes. Mental hardihood seems wrought into concrete organization. It checks excess of glandular

absorption, restrains the impulses of tumultuous passion, tones and regulates the action of the heart, and helps to weave the strands of organization into a more compact fabric. The

Fig. 91.

toning energies of the volitive faculties are better than quinine to fortify the system against *miasma* or *malaria*, and they co-operate with all tonic remedies in sustaining organic action. Fig. 91 is a portrait of Prof. Tyndall, the eminent chemist,

whose likeness indicates volitive innervation, showing great strength of character and of constitution; he is an earnest, thorough, and intense mental toiler; ambitious, but modest; brilliant, because persevering; diligent in scientific inquiry, and who follows the star of truth, whithersoever it may lead him. The expression of his countenance indicates his honest intentions, and displays strength of conscientious purpose; his physical constitution may be correctly interpreted in all of its general characteristics by the analysis of his energetic temperament, the great secret of his strength and success.

We desire to offer one more illustration of a marvelous blending of this temperament with large mental and emotional faculties. Fig. 92 is a representation of the martyred President Abraham Lincoln. During an eventful career, his temperament and constitution experienced marked changes, and while always distinguished for strength of purpose and corresponding physical endurance, he was governed by noble, moral faculties, manifesting the deepest sympathy for the down-trodden and oppressed, blending tenderness and stateliness without weakness, exhibiting a human kindness, and displaying a genuine compassion, which endeared him to all hearts. He was hopeful, patriotic, *magnanimous* even, while upholding the majesty of the law and administering the complicated affairs of government. The balances of his temperament operated with wonderful delicacy, through all the perturbating influences of the rebellion, showing by their persistence that he was never for a moment turned aside from the great end he had in view; the protection and perpetuation of republican liberty. His life exhibited a sublime, moral heroism, elements of character which hallow his name, and keep it in everlasting remembrance.

Fig. 92.

We have treated the brain, not as a mass of organs radiating from the medulla oblongata as their real center, but as two

cerebral masses, each of which is developed around the great ventricle. We have freely applied an easy psychical and physiological nomenclature to the functions of its organs, knowing that there is no arbitrary division of them by specific number, for the cerebrum, in an anatomical sense, is a single organ. The doctrine of cerebral unity is true, and the doctrine of its plurality of function is true also. Whatever effect an organ produces when acting in entire predominance, is regarded as the function of that organ and is expressed by that name. Although our names and divisions are arbitrary and designed for convenience, yet they facilitate our consideration of the psychical, and their corresponding physiological functions. Every cerebral manifestation denotes a *psychical* organ, and in proportion as these acts are transmitted to the body it becomes a *physiological* organ. We have ventured to repeat this proposition for the sake of the non-professional reader, that he may be able to distinguish between the two results of the manifestation of one organ. The transmission of the influence of the brain into the body enables the former to act physiologically, whereas, if its action were confined within the cranium, it would only be psychical. In the language of Prof. J. R. Buchanan, "every organ, therefore, has its mental and corporeal, its psychological and physiological functions — both usually manifested together — *either capable of assuming the predominance.*" We have already seen to what degree the *Will* operates upon the organism, or how "the soul imparts special energy to single organs, so that they perform their functions with more than usual efficiency," and thus resist the solicitations of morbific agents. Doubtless our best thoughts are deeply tinged by the healthful or diseased conditions of such organs as the stomach, the lungs, the heart, or even the muscular or circulatory systems, and these impressions, when carried to the sensorium, are reflected by the thoughts, for reflex action is the third class of functions, assigned to the cerebrum. These reflex actions are either hygienic and remedial, or morbid and pernicious. Hence, it is philosophical not only to interpret the thoughts as physiological and pathological indications, but to consider the cerebrum as exerting real hygienic and remedial forces, capable of producing salutary reparative, and restorative effects. When a boiler carries more

steam than can be advantageously employed, it is subjected to unnecessary and injurious strain, and is weakened thereby; so, when the body is overtasked by excessive pressure of the volitive faculties, it is prematurely enfeebled and broken down. There are many individuals who need to make use of some sort of safety valve to let off the surplus of their inordinate ambition; they need some kind of patent brake to slacken their speed of living; they should relieve the friction of their functional powers by a more frequent lubrication of the vital movements, and by stopping, for needed refreshment and rest, at some of the many way-stations of life.

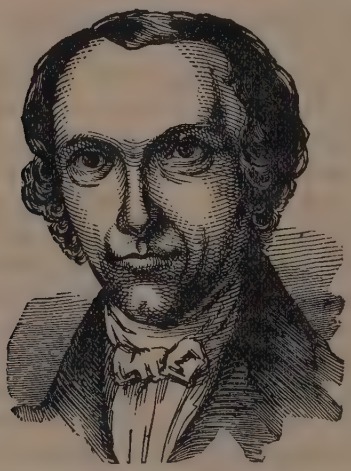
THE ENCEPHALIC TEMPERAMENT.

The encephalic temperament is distinguished by prominence and breadth of the forehead, or by a full forehead associated with height and breadth at its coronal junction with the parietal bones, and extending toward the volitive region. (See Fig. 10, the space between 1 and 2 represents the coronal region, 1 indicating the frontal bone, and 2 the parietal). Prominence and great breadth of the forehead display *analytical*, *i. e.*, scientific powers applicable to concretes, whereas a fair intellect, associated with a preponderating development of the coronal region, indicates *analogical* powers, *i. e.*, faculties to perceive the relation and the agreement of principles. The former classifies and arranges facts, the latter invests them with moral and spiritual import. The one treats of matter, its physical properties, and chemical composition, the other of thoughts and intentions which involve right and wrong, relating to spiritual accountability. The intellect is employed upon an observable order of things, while the emotive faculties arrange the general laws of being into abstract science.

Fig. 93, a portrait of Prof. Tholuck, is a remarkable example of an encephalic organization. Figs. 72 and 79 fairly indicate the effects of undue mental activity, the intellect causing vital expenditure resulting in the devitalization of the blood. While the intellect displays keen penetration, subtle discrimination, and profound discernment, the emotions exhibit intense sensitiveness, acute susceptibility, and inspirational impressibility.

The encephalic temperament is characterized by mental activity, great delicacy of organization, a high and broad forehead, expressive eyes, fine but not very abundant hair, great sensitiveness, refined feelings, vividness of conception, and intensity of emotion. If the brain is developed on the sides, there is manifested Ideality, Modesty, Hope, Sublimity, Imagination, and Spirituality. If the brain and forehead project, the Perceptive, Intuitive, and Reasoning faculties predominate. If it rises high, and nearly perpendicularly, Liberality, Sympathy, Truthfulness, and Sociability are manifested.

Fig. 93.

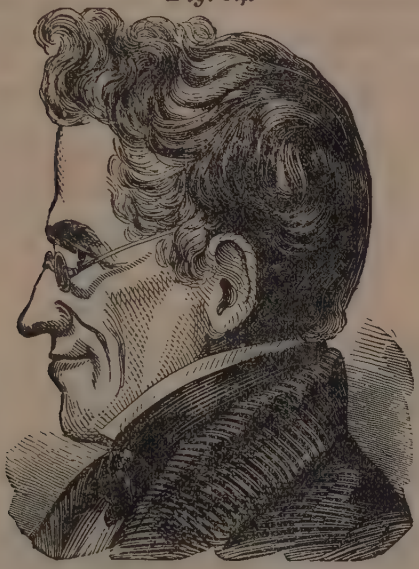


When the emotive faculties are large, Faith, Hope, Love, Philanthropy, Religion, and Devotion characterize the individual. It is an artistic, creative, and æsthetic temperament, beautiful in conception and grand in expression, yet its sensitiveness is enfeebling, and its crowning excellence, when betrayed by the propensities, trails in defilement. Its purity is God-like, its debauchment, Perdition!

Fig. 94 is the likeness of Prof. George Bush. His forehead is amply developed in the region of Foresight, Liberality, Sympathy, Truthfulness, and Benevolence; his mouth expresses Amiability and Cheerfulness, and the whole face beams with

Kindness and Generosity. This philanthropist, who is both a preacher and an author, has published several works upon

Fig. 94.



theology, which distinguish him for great research and originality.

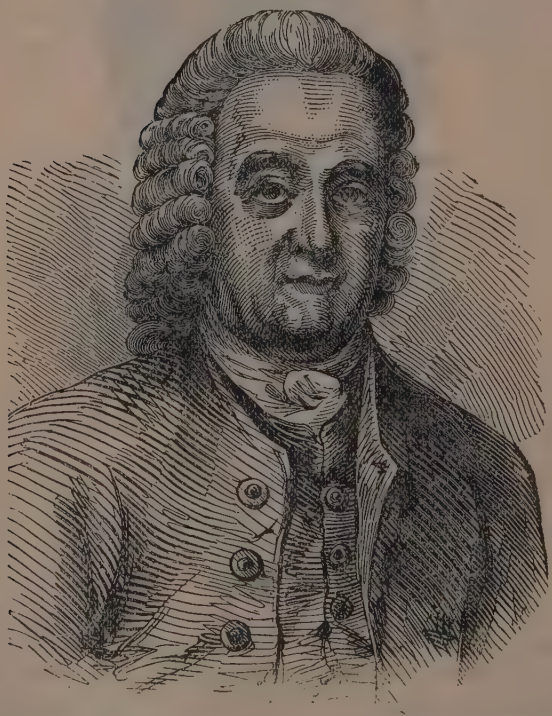
Fig. 95 represents the sanguine-encephalic temperament, the two elements being most happily blended. The portrait is that of Emmanuel Swedenborg, the great scholar and spiritual divine. The reader will observe how high and symmetrical is the forehead, and how well balanced appears the entire organization. He was remarkable for vivid imagination, great scientific acquirements, and all his writings characterize him as a subtle reasoner.

When the encephalic predominates, and the sanguine is deficient in its elements, we find conditions favorable to *waste* and *expenditure*, and adverse to a generous *supply* and *reformation* of the tissues. A child inheriting this cerebral development is already top-heavy, and supports, at an immense disadvantage, this disproportionate organization. The nutritive functions are overbalanced; consequently there is a

predisposition to scrofulous diseases and disorders of the blood, various degenerating changes taking place in its composition; loss of red corpuscles, signified by shortness of breath; morbid changes, manifested by cutaneous eruptions; exhaustion from lack of nourishment, etc., until, finally, consumption finishes the subject.

Harmony is the support of all institutions, and applies with

Fig. 95.



special cogency to the maintenance of health. When the mind dwells on one subject to the exclusion of all others, we call such a condition monomania. If we have an excessive development of mind, and deficient support of body, the result is corporeal derangement. It is unfortunate for any child to inherit unusually large brain endowments, unless he is possessed of a vigorous, robust constitution. Such training

should be directed to that body as will encourage it to grow strong, hearty, and thrifty, and enable it to support the cerebral functions. The mental proclivities should be checked and the physical organization cultivated, to insure to such a child good health. Cut off all unneccessary brain-wastes, attend to muscular training and such invigorating games and exercises as encourage the circulation of the blood; keep the skin clean and its functions active, the body warm and well protected, the lungs supplied with pure air, the stomach furnished with wholesome food, besides have the child take plenty of sleep to invigorate the system, and thus, by regular habits, maintain that equilibrium which tends to wholesome efficiency and healthful endurance.

TRANSMISSION OF LIFE.

As has been already stated in the chapter on Biology, reproduction of the species depends upon the union of a sperm-cell with a germ-cell, the male furnishing the former and the female the latter. It is a well-known fact that the marriage of persons having dissimilar temperaments is more likely to be fertile than the union of persons of the same temperaments; consanguineous marriages, or the union of persons nearly related by blood, diminish fertility and the vigor of the offspring. Upon this subject Francis Galton has given some very interesting historical illustrations in his well-known work, entitled "Hereditary Genius." The half-brother of Alexander the Great, Ptolemy I, King of Egypt, had twelve descendants, who successively became kings of that country, and who were also called Ptolemy. They were matched in and in, but in nearly every case these near marriages were unprolific and the inheritance generally passed through other wives. Ptolemy II married his niece, and afterwards his sister; Ptolemy IV married his sister. Ptolemy VI and VII were brothers, and they both consecutively married the same sister; Ptolemy VII also subsequently married his niece; Ptolemy VIII married two of his sisters in succession. Ptolemy XII and XIII were brothers, and both consecutively married their sister, Cleopatra. Mr. Galton and Sir Jas. Y. Simpson have shown that many peerages have become extinct through the evil results of intermarriage. Heiresses are usually only children, the feeble product

of a run-out stock, and statistics have shown that one-fifth of them bear no children, and fully one-third never bear more than one child. Sir J. Y. Simpson ascertained that out of 495 marriages in the British Peerage, 81 were unfruitful, or nearly one in every six; while out of 675 marriages among an agricultural and seafaring population, only 65 were sterile or barren, or a little less than one in ten.

While the marriages of persons closely related, or of similar temperaments are frequently unfruitful, we would not have the reader understand that sterility, or barrenness, is usually the result of such unions. It is most frequently due to some deformity or diseased condition of the generative organs of the female. In the latter part of this work may be found a minute description of the conditions which cause barrenness, together with the methods of treatment, which have proved most effectual in the extensive practice at the Invalids' Hotel and Surgical Institute.

The temperaments may be compared to a magnet, *the like poles of which repel, and the unlike poles of which attract each other.* Thus similarity of temperament results in barrenness while dissimilarity makes the vital magnetism all the more powerful. Marriageable persons moved by some unknown influence, have been drawn instinctively toward each other, have taken upon themselves the vows and obligations of wedlock, and have been fruitful and happy in this relation. Alliances founded upon position, money, or purely arbitrary considerations, mere contracts of convenience, are very apt to prove unhappy and unproductive.

Men may unconsciously obey strong instinctive impulses without being conscious of their existence, and by doing so, avoid those ills, which otherwise might destroy their connubial happiness. The *philosophy* of marriage receives no consideration, because the mind is pre-occupied with newly awakened thoughts and feelings. Lovers are charmed by certain harmonies, feel interior persuasions, respond to a new magnetic influence and are lost in an excess of rapture.

If the parties to a marriage are evenly balanced in organic elements, although both of them are vigorous, yet it is physiologically more suitable for them to form a nuptial alliance with

an unlike combination. The cause of the wretchedness attending many marriages may be traced to a too great similarity of organization, ideas, taste, education, pursuits, and association, which similarity almost invariably terminates in domestic unhappiness. The husband and wife should be as different as the positive and negative poles of a magnet. When life is begotten under these circumstances we may expect a development bright with intelligence.

CHAPTER XVI.

MARRIAGE.

LOVE.

"Love is the root of creation; God's essence;
worlds without number
Lie in his bosom like children; he made them
for this purpose only.
Only to love and to be loved again, he breathed
forth his spirit
Into the slumbering dust, and upright standing, it
laid its
Hand on its heart, and felt it was warm with a
flame out of heaven."

—LONGFELLOW.

Love, that tender, inexplicable feeling which is the germinal essence of the human spirit, is the rudimental element of the human soul. It is, therefore, a Divine gift, a blessing which the Creator did not withdraw from his erring children, when they were driven from a paradise of innocence and loveliness into a world of desolation and strife. He left it as an invisible cord by which to draw the human heart ever upward, to a brighter home—the heavenly Eden. Love is the very essence of Divine law, the source of inspiration, even the fountain of life itself. It is spontaneous, generous, infinite. To its presence we are indebted for all that is good, true, and beautiful in Art and Nature. It endows humanity with countless virtues, and throws a mystic veil over our many faults. It is this feeling, this immutable law, which controls the destiny of the race. From its influence empires have fallen, scepters have been lost. Literature owes to Love its choicest gems.

The poet's lay is sweeter when Cupid tunes the lyre. The artist's brush is truer when guided by Love. Greece was the cradle of letters and art. Her daughters were queens of beauty, fitted to inspire the Love of her noblest sons.

The materialism of the nineteenth century has sought to degrade Love; to define it as purely physical. The result has been a corresponding degradation of art, and even literature has lost much of its lofty idealism. Nudity has become a synonym of vulgarity; Love, of lust. "Evil be to him who evil thinks." True Love never seeks to degrade its object; on the contrary, it magnifies every virtue, endows it with divinest attributes, and guards its chastity, or honor, at the sacrifice of its own life. It increases benevolence by opening the lover's heart to the wants of suffering humanity. Ideality is the canvas, and imagination the brush with which Love delineates the beauties of the adored. Love heightens spirituality, awakens hope, strengthens faith, and enhances devotion. It quickens the perceptions, intensifies the sensibilities, and redoubles the memory. It augments muscular activity, and imparts grace to every movement. The desire to love and to be loved is innate, and forms as much a part of our being as bone or reason. In fact, Love may be considered as the very foundation of our spiritual existence, as bone and reason are the essential bases of our physical and intellectual being. Every man or woman feels the influence of this emotion, sooner or later. It is the Kadesh-barnea of human existence; obedience to its intuitions insures the richest blessings of life, while neglect or perversion enkindles God's wrath, even as did the disobedience of the wandering Israelites.

Fig. 96.

The one great fact which pervades the universe is *action.* The very existence of Love demands its activity, and, hence, the highest happiness is attained by a normal and legitimate development of this element of our being. The heart demands

an object upon which to lavish the largess of its affection. In the absence of all others, a star, a flower, or even a bird, will receive this homage. The bird warbles a gay answer to the well-known voice, the flower repays the careful cultivator by displaying its richest tints, the star twinkles a bright "good evening" to the lonely watcher, and yet withal there is an unsatisfied longing in the lover's heart, to which neither can respond; the desire to be loved! Hence, the perfect peace of reciprocated love. If its laws are violated, nature seeks revenge in the utter depression or prostration of the vital energies. Thus has the Divine Law-giver engraven His command on our very being. To love is, therefore, a duty, the fulfillment of which should engage our noblest powers.

This emotion manifests itself in several phases, prominent among which is filial affection, the natural harmonizer of society. Paternal love includes a new element—protection. Greater than either, and second only in fortitude to maternal affection, is

CONJUGAL LOVE.

"He is blest in Love alone
Who loves for years and loves but one."—HUNT.

With Swedenborg, we may assert, "*that there is given love truly conjugal, which at this day is so rare, that it is not known what it is, and scarce that it is.*" The same author has defined this relation to be a union of Love and Wisdom. The fundamental law of conjugal love is *fidelity to one love.* God created but one Eve, and the essential elements of paternal and maternal love pre-suppose and necessitate, for their normal development, the Love of *one* only. Again, Love is the sun of woman's existence. Only under its influence does she unfold the noblest powers of her being. Woman's intuitions should therefore be taken as the true love-gauge. If she desire a plurality of loves, it must be a law of her nature; but is communism the desire of our wives and daughters? No! Every act which renders woman dear to us, denounces such an idea and reveals the exclusive sacredness of her Love. As condemning promiscuity in this relation, we may cite the lovers' pledges and oaths of fidelity, the self-perpetuity of Love itself,

the common instincts of mankind, as embodied in public sentiment, and the inherent consciousness that first love should be kept inviolable forever. Again, Love is conservative. It clings tenaciously to all the memories connected with its first object. The scenes consecrated to "Love's young dream" are sacred to every heart. The woodland with its winding paths and arbors, the streamlet bordered with drooping violets and dreamy pimpernel, the clouds, and even "the very tones in which we spoke," are indelibly imprinted on the memory. There is also the "mine and thine" intuition of love. This sentiment is displayed in every thought and act of the lover. Every pleasure is insipid unless shared by the beloved; selfish and exacting to all others, yet always generous and forgiving to the adored. "Mine and thine, dearest," is the language of Conjugal Love.

The consummation desired by all who experience this affection, is the union of souls in a true marriage. Whatever of beauty or romance there may be in the lover's dream, is enhanced and spiritualized in the intimate communion of married life. The crown of wifehood and maternity is purer, more divine, than that of the maiden. Passion is lost; the emotions predominate.

The connubial relation is not an institution; it was born of the necessities and desires of our nature. "It is not good for man to be alone," was the Divine judgment, and so God created for him "an helpmate." Again, "Male and female created He them;" therefore, sex is as divine as the soul. It is often perverted, but so is reason, aye, so is devotion.

The consummation of marriage involves the mightiest issues of life. It may be the source of infinite happiness or the seal of a living death. "Love is blind" is an old saying, verified by thousands of ill-assorted unions. Many unhappy marriages are traceable to one or both of two sources; Physical Weaknesses and Masquerading. Many are the candidates for marriage who are rendered unfit therefor from weaknesses of their sexual systems, induced by the violation of well-established physical laws.

We cannot too strongly urge upon parents and guardians the imperative duty of teaching those youths who look to them for

instruction, in all matters which pertain to their future well-being such lessons as are embraced in the chapter of this book entitled, "Hygiene of the Reproductive Organs." By attending to such lessons as will give the child a knowledge of the physiology and hygiene of his whole system, the errors into which so many of the young fall, and much of the misery which is so often the dregs of the hymeneal cup, will be avoided.

Masquerading is a modern accomplishment. Girls wear tight shoes, burdensome skirts, and corsets, all of which prove very injurious to their health. At the age of seventeen or eighteen, our young ladies are sorry specimens of womankind, and "palpitators," cosmetics, and all the modern paraphernalia of fashion are required to make them appear fresh and blooming. Man is equally to blame. A devotee to all the absurd devices of fashion, he practically asserts that "dress makes the man." But physical deformities are of far less importance than moral imperfections. Frankness is indispensable in love. Each should know the other's faults and virtues. Marriage will certainly disclose them; the idol falls and the deceived lover is transformed into a cold, unloving husband or wife. By far the greater number of unhappy marriages are attributable to this cause. In love especially, honesty is policy and truth will triumph.

HISTORY OF MARRIAGE.

Polygamy and Monogamy. We propose to give only a brief dissertation on the principles and arguments of these systems, with special reference to their representatives in the nineteenth century. Polygamy has existed in all ages. It is, and always has been, the result of moral degradation or wantonness. The Garden of Eden was no harem. Primeval nature knew no community of love. There was only the union of two "and the twain were made one flesh." Time passed; "the sons of God saw the daughters of men that they were fair; and they took them wives of all which they chose." The propensities of men were in the ascendant, and "God repented Him that He had created man." He directed Noah to take into the ark, two of every sort, male and female. But "the imagination of man's heart is evil from his youth," and tradition points to Polygamy as the generally recognized form of marriage among the ancients.

The father of the Hebrew nation was unquestionably a polygamist, and the general history of patriarchal life shows that a plurality of wives and concubines were national customs. In the earlier part of Egyptian history, Menes is said to have founded a system of marriage, ostensibly monogamous, but in reality it was polygamous, because it allowed concubinage. As civilization advanced, the latter became unpopular, and "although lawful, was uncommon," while polygamy was expressly forbidden. Solomon, according to polygamous principles, with his thousand women, should have enjoyed a most felicitous condition. Strange that he exclaimed "A woman among all these have I not found." According to the distinguished Rabbi, Maimonides, polygamy was a Jewish custom as late as the thirteenth century. When Cecrops the Egyptian King, came to Athens (1550, B. C.) he introduced a new system, which proved to be another step toward the recognition of Monogamy. Under this code a man was permitted to have one wife and a concubine. Here dawned the era of Grecian civilization, the glory of which was reflected in the social and political principles of Western Europe. During the fourth and fifth centuries B. C., concubinage disappeared, but, under the new regime, the condition of the wife was degraded. She was regarded as simply an instrument of procreation and a mistress of the household, while a class of foreign women, who devoted themselves to learning and the fine arts, were the admired, and often the beloved companions of the husbands. These were the courtesans who played the same rôle in Athenian history, as did the chaste matron, in the annals of Rome. When Greece became subject to Rome and the national characteristics of these nations were blended, marriage became a loose form of monogamy. In Persia, during the reign of Cyrus, about 560 B. C., polygamy was sustained by custom, law, and religion. The Chinese marriage system was, and is, practically polygamous, for, from their earliest traditions, we learn that although a man could have but one wife, he was permitted to have as many concubines as he desired.

In the Christian era, the first religious system which incorporated polygamy as a principle was Mohammedanism. This system, which is so admirably adapted to the voluptuous

character of the Orientals, has penetrated Western Europe, Asia, and Africa. Hayward estimated the number of its adherents to be one hundred and forty millions. The heaven of the Mohammedan is replete with all the luxuries which appeal to the animal propensities. Ravishing Houris attend the faithful, who recline on downy couches, in pavilions of pearl. On the Western Continent a system of promiscuity was practiced by the Mexicans, Peruvians, Brazilians, and the barbarous tribes of North America.

The Mormon Church was founded by Joseph Smith, and professes to be in harmony with the Bible and a special revelation to its leading Saint. According to the Mormon code, "Love is a yearning for a higher state of existence, and the passions, properly understood, are feeders of the spiritual life;" and again, "nature is dual; to complete his organization a man must marry." The leading error of Mormonism is that it mistakes a legal permission for a Divine command. The Mormon logic may be premised as follows: the Mosaic law allowed polygamy; the Bible records it; therefore, the Bible *teaches* polygamy.

A Mormon Saint can have not less than three wives but as many more as he can conveniently support. The eight fundamental doctrines of the Mormon Church are stated as follows: 1. God is a person with the flesh and form of a man. 2. Man is a part of the substance of God and will himself become a god. 3. Man is not created by God but existed from all eternity. 4. Man is not born in sin, and is not accountable for offenses other than his own. 5. The earth is a colony of embodied spirits, one of many such settlements in space. 6. God is president of the immortals, having under Him four orders of beings: (1.) Gods—*i. e.*, immortal beings, possessed of a perfect organization of soul and body, being the final state of men who have lived on earth in perfect obedience to the law. (2.) Angels, immortal beings who have lived on earth in imperfect obedience to the law. (3.) Men, immortal beings in whom a living soul is united with a human body. (4.) Spirits, immortal beings, still waiting to receive their tabernacle of flesh. 7. Man, being one of the race of gods, became eligible, by means of marriage, for a celestial throne, and his household of

wives and children are his kingdom, not only on earth but in heaven. 8. The kingdom of God has been again founded on earth, and the time has now come for the saints to take possession of their own; but by virtue, not by violence; by industry, not by force. This sect has met with stern and bitter opposition. It was successively located in New York, Ohio, Missouri, and Illinois, from the last of which it was expelled by force of arms, and in 1848 established in Utah. Its adherents number, at the present time, more than two hundred thousand.

Another organization, differing from the Mormons, in many of its radical principles, is that of the "Communists," popularly termed "Free Lovers." It is located at Lennox, Madison Co., N. Y. Its members advocate a system of "complex marriage" which they claim is instituted with a conscientious regard for the welfare of posterity. They disclaim "promiscuity," and assert that the tie which binds them together is as permanent and as sacred as that of marriage. Community of property is commensurate with freedom of Love. They define love to be "social appreciation," and this element in their code of civilization, which they deem superior to all others, is secondary to "bodily support." The principles upon which their social status is founded may be briefly summarized as follows: "Man offers woman support and love (unconditional). Woman enjoying freedom, self-respect, health, personal and mental competency, gives herself to man in the boundless sincerity of an unselfish union. State—, Communism." In this, as in all forms of polygamous marriages, love is made synonymous with sexuality, and its purely spiritual element is lost. In every instance this spiritual element should constitute the basis of marriage, which, without it, is nothing more than legal prostitution. Without it, the selfish, degrading, animal propensities run rampant, while the emotions with all their boundless sweetness lie dormant. Woman is regarded as only a plaything to gratify the animal caprice.

That Monogamy is a law of nature is evident from the fact that it fulfills the three essential conditions which form the basis of true marriage: (1.) The development of the individual. (2.) The welfare of society. (3.) The reproduction of the species.

THE DEVELOPMENT OF THE INDIVIDUAL.

Physically. Reciprocated love produces a general exhilaration of the system. The elasticity of the muscles is increased, the circulation is quickened, and every bodily function is stimulated. The duties of life are performed with a zest and alacrity never before experienced. "It is not possible for human beings to attain their full stature of humanity, except by loving long and perfectly. Behold that venerable man! He is mature in judgment, perfect in every action and expression, and saintly in goodness. You almost worship as you behold. What rendered him thus perfect? What rounded off his natural asperities, and moulded up his virtues? Love mainly. It permeated every pore, so to speak, and seasoned every fiber of his being, as could nothing else. Mark that matronly woman. In the bosom of her family, she is more than a queen and goddess combined. All her looks and actions express the outflowing of some or all of the human virtues. To know her is to love her. She became thus perfect, not in a day or a year, but by a long series of appropriate efforts. Then by what? Chiefly in and by love, which is specifically adapted thus to develope this maturity." But all this occurs only when there is a normal exercise of the sexual propensities. Excessive indulgence in marital pleasures deadens all the higher faculties, love included, and results in an utter prostration of the bodily powers. The Creator has endowed man and woman with passions, the suppression of which leads to pain, their gratification to pleasure, their satiety to disgust. Excessive marital indulgence produces abnormal conditions of the generative organs and not unfrequently leads to incurable disease. Many cases of uterine disease are traceable to this cause.

Morally and Intellectually. In no country where the polygamous system prevails do we find a code of political and social ethics which recognizes the rights and claims of the individual. The condition of woman is that of the basest slave, a slave to the caprice and tyranny of her master. Communism raises her from the slough of slavery, but subjects her to the level of prostitution. An inevitable sequence of polygamy is a decline of literature and science. The natural tendency of

each system is to *sensualism*. The blood is diverted from its normal channels and the result is a condition which may be appropriately termed *mental starvation*. Sensualism is in its very nature directly opposed to literary attainments or advancement. Happily there is a golden mean, an equalization of those elements which constitutes the acme of individual enjoyment.

THE WELFARE OF SOCIETY.

The general law of ethics, that "whatever is beneficial to the individual, contributed to the highest good of society and *vice versa*," applies with equal force to the hygienic conditions of marriage. Each family, like the ancient Roman household, is the prototype of the natural government under which it lives. Wherever the marriage relation is regarded as sacred, there you will find men of pure hearts and noble lives. Of all foreign nations the Germans are celebrated for their sacred regard of woman, and the duties of marriage, and all scholars from the age of Tacitus to the present day, have concurred in attributing the elevation of woman to the pure-minded Teutons. In America, the law recognizes only Monogamy; but domestic unhappiness is a prominent feature of our national life; therefore, argues the would-be free-lover, monogamy does not accord with the best interests of mankind. The fallacy lies in the first premise. Legally, our marriage system is monogamous but *socially* and *practically* it is *not!* Prostitution is the source of this domestic infelicity. The "mistress" sips the sweet nectar that is denied to the deceived wife. Legislators have battled with intemperance, but have done comparatively little to banish from our midst this necessary (?) evil. They recoil with disgust from this abyss of iniquity and disease. Within it is coiled a hydra-headed monster, which invades our hearthstones, contaminates our social atmosphere, and whose very breath is laden with poisonous vapors, the inexhaustible source of all evil.

The perverted appetites of mankind are mistaken for the natural desires and necessities of our being; and, accordingly, various arguments have been advanced to prove that monogamy is not conducive to social developement. It is curious that no one of these arguments refers to the health and well-being of

the *individual*, thus overlooking, perhaps willfully, the great law of social economy. Even a few medical writers sometimes advocate the principles of this so-called liberalism. In a recently published work, there are enumerated only *two* demerits of polygamy and *six* of monogamy. These six demerits which the author is pleased to term a "bombshell," he introduces on account of his moral convictions no less than humanitarian considerations. The same author terms monogamy a "worm-eaten and rotten-rooted tree." The worm that is devastating the fairest tree of Eden and draining its richest juices is what our contemporary thinks, may be "*plausibly termed, a necessary evil.*" It is claimed that monogamy begets narrow sympathies and leads to selfish idolatry. The fallacy of this argument lies in the misapprehension of the term *selfishness.* Self-preservation is literally selfishness, yet who will deny that it is a paramount duty of man. If perverted, it may be vicious, even criminal; but selfishness, in so far as it is generated by monogamy, is one of the chief elements of social economy; furthermore, it favors the observance of the laws of sexual hygiene. As we have said elsewhere, true love *increases benevolence*, and correspondingly expands and develops the sympathies. Selfish idolatry is preferable to social neglect. This argument will not bear a critical examination; for it is asserted that in a happy union, "love is so exclusive that there is hardly a liking for good neighbors, and scarcely any love at all for God." If the "good neighbors" were equally blessed, they would not suffer from this exclusiveness, and it is practically true that there is no higher incentive to love and obey our Maker than the blessing of a happy marriage.

THE PERPETUATION OF THE SPECIES.

The third essential object of marriage is the perpetuation of the species. The desire for offspring is innate in the heart of every true man or woman. It is thus a law of our nature, and, as such, must have its legitimate sphere. The essential features of reproduction proclaim monogamy to be the true method of procreation. Promiscuity would render the mother unable to designate the father of her children. Among lower animals, pairing is an instinctive law whenever the female is

incapable of protecting and nourishing her offspring alone. During at least fifteen years, the child is dependent for food and clothing upon its parents, to say nothing of the requisite moral training and loving sympathy, which, in a great measure, mould its character. Fidelity to one promotes multiplication. It has been argued by the advocates of polygamy that such a system interferes with woman's natural right to maternity. Of the many marriages celebrated yearly, comparatively few are sterile. The statement that many single women are desirous of having children, would apply only to a very limited number, as it is seldom that they would be able to support children without the aid and assistance of a father. Promiscuity diminishes the number and *vitiates* the quality of the human products. "Women of pleasure never give to the world sons of genius, or daughters of moral purity."

CHAPTER XVII.

REPRODUCTION.

Every individual derives existence from a *parent*, which word literally means one who brings forth. We restrict the meaning of the term *reproduction*, ordinarily, to that function by which living bodies produce other living bodies similar to themselves. *Production* means to bring forth; *reproduction*, the producing again, or renewing. To protract individual existence, nutrition is necessary, because all vital changes are attended by *wear* and *waste*. Nutrition is always engaged in the work of reparation. Every organism that starts out upon its career of development depends upon nourishing materials for its growth, and upon this renewing process for its development. Nutrition is all the while necessary to prolong the life of the individual, but at length its vigor wanes, its functions languish, and, finally, the light of earthly life goes out. Although the single organization decays and passes away, nevertheless the species is uninterruptedly continued; the tidal wave of life surges higher on the shores of time, for reproduction is as constant and stable as the attractive forces of the planetary system.

It is a fact, that many species of the lower order of animals which once existed are now extinct. It has been asserted and denied, that fossil remains of man have been found, indicating that races which once existed have disappeared from the face of the earth. The pyramids are unfolding a wonderful history, embracing a period of forty-five hundred years, which the world of science receives as literally authentic, and admits, also, that fifty-four hundred years are *probably* as correctly

accounted for. The extinction of races is not at all improbable. At the present time, the aboriginal inhabitants of this continent seem to be surely undergoing gradual extinguishment! It, therefore, seems to be possible for a weaker race to deteriorate, and finally become extinct, unless the causes of their decadence can be discovered and remedied. All people are admonished to earnestly investigate the essential conditions necessary for their continuance, for the rise and fall of nations is in obedience to natural principles and operations. Viewed from this standpoint, it is possible that a careful study of the human temperaments and their relations to reproduction may be of greater moment than has hitherto been supposed, and a proper understanding of them may tend to avert that individual deterioration, which, if suffered to become general, would end in national disaster and the extinction of the race.

Until recently, even naturalists believed that descendants were strictly like their parents in form and structure. Now it is known that the progeny may differ in both form and structure from the parent, and that these may produce others still more unlike their ancestry. But all these peculiar and incidental deviations finally return to the original form, showing that these changes have definite limits, and that the alterations observe a specific variableness, which is finally completed by its assuming again the original form. (See page 16, Figs. 2 and 3).

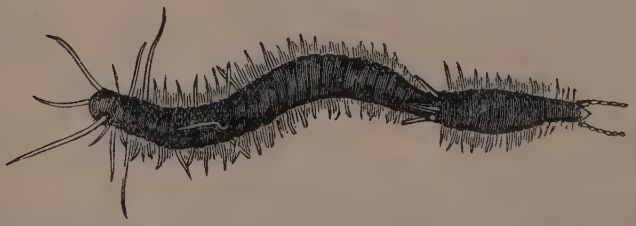
Reproduction may be *sexual* or *non-sexual.* In some plants and animals it is non-sexual. The propagation of species is accomplished by buds. Thus the gardener grafts a new variety of fruit upon an old stock. The florist understands how to produce new varieties of flowers, and make them radiantly beautiful in their bright and glowing colors. The bud personates the species and produces after its kind. Some of the *annelides*, a division of articulate animals, characterized by an elongated body, formed of numerous rings or annular segments, multiply by spontaneous division. A new head is formed at intervals in certain segments of the body. (See Fig. 97).

Something similar to this process of budding, we find taking place in a low order of animal organization. Divide the fresh water polyp into several pieces, and each one will grow into

an entire animal. Each piece represents a polyp, and so each parent polyp is really a compound animal, an organized community of beings. Just as the buds of a tree, when separated and engrafted upon another tree, grow again, each preserving its original identity, so do the several parts of this animal, when divided, become individual polyps, capable of similar reproduction.

The revolving volvox likewise increases by growth until it becomes a society of animals, a multiple system of individuals. There are apertures from the parent, by which water gains a free access to the interior of the whole miniature series. This monad was once supposed to be a single animal, but the microscope shows it to be a group of animals connected by

Fig. 97.



An annelid dividing spontaneously, a new head having been formed toward the hinder part of the body of the parent.

means of six processes, and each little growing volvox exhibits his red-eye speck and two long spines, or horns. These animals also multiply by dividing, and thus liberate another series, which, in their turn, reproduce other groups.

Generation requires the concurrence of *stimuli* and *susceptibility*, and, to perfect the process, two conditions are also necessary. The first is the sperm, which communicates the principle of action; the other is the germ, which receives the latent life and provides the conditions necessary to organic evolution. The vivifying function belongs to the male, that of nourishing and cherishing is possessed by the female; and these conditions are sexual distinctions. The former represents *will* and *understanding;* the latter, *vitality* and *emotion.* The father directs and controls, the mother fosters and encourages;

the former counsels and admonishes, the latter persuades and caresses; and their union in holy matrimony represents one; that is, the blending of vitality and energy, of love and wisdom, —the elements indispensable to the initiation of life under the dual conditions of male and female,—*one in the functions of reproduction.*

Let us consider the modes of Sexual Reproduction, which are *hermaphroditic* and *diœcious.*

HERMAPHRODITIC REPRODUCTION.

We have said that two kinds of cells represent reproduction, namely, sperm and germ-cells. These may be furnished by different individuals, or both may be found in one. When both are found in the same individual, the parent is said to be a *natural hermaphrodite.* A perfect hermaphrodite possesses the attributes of both male and female—uniting both sexes in one individual. Natural hermaphroditic reproduction occurs only among inferior classes of animals, and naturalists inform us that there are a greater number of these than of the more perfect varieties. These are found low in the scale of animal organization, and one individual is able to propagate the species. In the oyster and ascidians no organs can be detected in the male, but in the female they are developed. Polyps, sponges, and cystic entozoa, may also be included among hermaphrodites.

It is only very low organisms indeed in which it is a matter of indifference whether the united sperm-cells and germ-cells are those of the same individual, or those of different individuals. In more elaborate structures and highly organized beings, the essential thing in fertilization is the union of these cells specially endowed by *different* bodies, the unlikeness of derivation in these united reproductive centers being the desideratum for perpetuating life and power.

In other classes, as *entozoa*, there appear to be special provisions whereby the sperm-cells and germ-cells may be united; *i. e.*, the male organs are developed and so disposed as to fecundate the ova of the same individual. Sexual and non-sexual modes of reproduction are illustrated by that well-defined group of marine invertebrate animals, called *cirripedia.* Fig. 98 represents one of this genus.

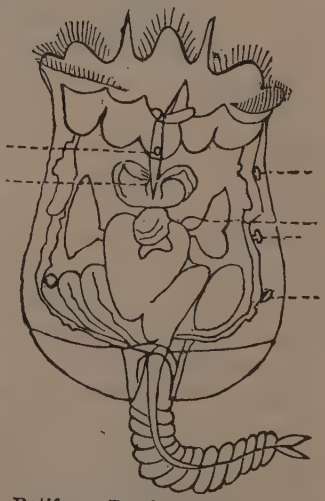
Some of these are not only capable of self-impregnation, but likewise have what are called *complemental males* attached to some of the hermaphrodites. In the whole animal kingdom, it may be doubted if there exists another such class of rudimentary creatures as the parasitic males, who possess neither mouth, stomach, thorax, nor abdomen. After exerting a peculiar sexual influence, they soon die and drop off; so that in this class of animals may be found the sexual distinctions of male, female, and perfect hermaphrodites.

Fig. 98.

Pollicipes Mitella.

There is a class of wheel-animalcules termed *rotifera*, of which the revolving volvox is one example. They have acquired this name on account of the apparent rotation of the disc-like organs which surround their mouths and are covered with *cilia*, or little hairs. They are minute creatures, and can best be viewed with a microscope, although the larger forms may be seen without such assistance. They are widely diffused on the surface of the earth, inhabit lakes as well as the ocean, and are found in cold, temperate, and tropical climates. The rotifera were once supposed to be hermaphrodites, but the existence of sexes in one species has been clearly established. The male, however, is much smaller, and far less developed than the female. In some of these species, germ-cells, or eggs, are found, which do not require fecundation for reproduction or development, so that they belong to the non-sexual class.

Fig. 99.



Rotifera; Brachionus Urceolaris; largely magnified.

The third variety of hermaphrodites embraces those animals in which the male organs are so disposed as not to fecundate

the ova of the same body, but require the co-operation of two individuals, notwithstanding the co-existence in each of the organs of both sexes. Each in turn impregnates the other. The common leech, earth-worm, and snail, propagate in this manner.

Unnatural hermaphrodism is characteristic of insects and crustaceans, in which the whole body indicates a neutral character, tending to exhibit the peculiarities of male or female, in proportion to the kind of sexual organs which predominates. Half of the body may be occupied by male, the other half by female organs, and each half reflects its peculiar sexual characteristics. Some butterflies are dimidiate hermaphrodites; *i. e.*, one side of the body has the form and color of the male, the other the form and color of the female. The wings show by their color and appearance these sexual distinctions. The stag-beetle is also an example. We have accounts of dimidiate hermaphrodite lobsters, male in one half and female in the other half of the body.

Among the numerous classes of higher animals, which have red blood, we have heard of no well-authenticated instance of hermaphrodism, or the complete union of *all* the reproductive organs in one individual. True, the term *hermaphrodite* is often applied to certain persons in whom there is some malformation, deficiency, or excess, of the genital organs. These congenital deformities consisting of combined increase or deficiency, supernumerary organs, or transposition of them, which usually render generation physically impossible, have been called *bisexual hermaphrodism* and classed as monstrosities. We have many published accounts of them, hence, further reference to them here is unnecessary. We would especially refer those readers who may desire to make themselves further acquainted with this interesting subject, to the standard physiological works of Flint, Foster, Carpenter, Bennett, Dalton, and others equally eminent in this particular branch of science.

Certain theories have been advanced concerning conditions which may influence the sex of the offspring. One is that the right ovary furnishes the germs for males, the left for females; that the right testicle furnishes sperm capable of fecundating the germs of males, and the left testicle, the germs of the left

ovary, for females. That fecundation sometimes takes place from right to left and thus produces these abnormal variations. We merely state the hypothesis, but do not regard it as accounting for the distinction of sex, or as causing monstrosities, though it is somewhat plausible as a theory, and is not easily disproved. In the lower order of animals, as sheep and swine, one of the testicles has been removed, and there resulted afterward both male and female progeny, so that the theory seems to lack facts for a foundation.

We sometimes witness in the child excessive development, as five fingers, a large cranium, which results in dropsical effusion, or deficient brain, as in idiots; sometimes a hand or arm is lacking, or possibly there is a dual connection, as in the case of the Siamese twins; or, two heads united on one body. It is difficult to give any satisfactory explanation of these abnormal developments. From age to age, the type is *constant*, and preserves a race-unity. The crossings of the races are only transient deviations, not capable of perpetuation, and quickly return again to the original stock. This force is persistent, for inasmuch as the individual represents the race, so does his offspring represent the parental characteristics, in tastes, proclivities, and morals, as well as in organic resemblances. This constancy is unaccountable, and more mysterious than the occasional malformation of germs in the early period of fœtal life. If to every deviation from that original form and structure, which gives character to the productions of nature, we apply the term *monster*, we shall find but very few, and from this whole class there will be a very small number indeed of *sexual* malformations. If the sexes be deprived of the generative organs, they approach each other in disposition and appearance. All those who are partly male and partly female in their organization, unite, to a certain extent, the characteristics of both sexes. When the female loses her prolific powers, many of her sexual peculiarities and attractions wane.

DIŒCIOUS REPRODUCTION.

Diœcious is a word derived from the Greek, and signifies *two households*; hence, *diœcious reproduction* is sexual generation by male and female individuals. Each is distinguished by sexual

characteristics. The male sexual organs are complete in one individual, and all the female organs belong to a separate feminine organization. In some of the vertebrates, impregnation does not require sexual congress; in other words, fecundation may take place *externally*. The female fish of some species first deposits her ova, and afterwards the male swims to that locality and fertilizes them with sperm.

In higher orders of animals, fecundation occurs *internally*, the conjunction of the sperm and germ cells requiring the conjugation of the male and female sexual organs. The sperm-cells of the male furnish the quickening principle, which sets in play all the generative energies, while the germ-cell, susceptible to its vivifying presence, responds with all the conditions necessary to evolution. The special laboratory which furnishes spermatic material is the *testes*, while the stroma of the *ovaries* contributes the germ-cell. Several different modes of reproducing are observed when fecundation occurs within the body, which vary according to the peculiarities and organization of the female.

Modes of Diœcious Reproduction.—A very familiar illustration of one mode is found in the common domestic fowl, the egg of which vivified within the ovarium, is afterward expelled and hatched by the simple agency of warmth. This mode of reproduction is called *oviparous generation.*

The ovaries, as well as all their latent germs, are *remarkably* influenced by the first fecundation. It seems to indicate monogamy as the rule of higher sexual reproduction. The farmer understands that if he wishes to materially improve his cows, the first offspring must be begotten by a better, purer breed, and all that follow will be essentially benefited, even if not so well sired. Neither will the best blood exhibit its most desirable qualities in the calves whose mothers have previously carried inferior stock. So that there are sexual ante-natal influences which may deteriorate the quality of the progeny. The Jews understood this principle, in the raising up of sons and daughters unto a deceased brother. The fact that the sexual influence of a previous conception is not lost, is illustrated when, in a second marriage, the wife bears a son or daughter resembling bodily or mentally, or in both of these respects, the former

husband. This indicates a union for life by natural influences which never die out.

With some species of fish and reptiles, the egg is impregnated internally, and the process of *laying* commences immediately, but it proceeds so slowly through the excretory passages, that it is hatched and born alive. This is called *ovo-viviparous generation.*

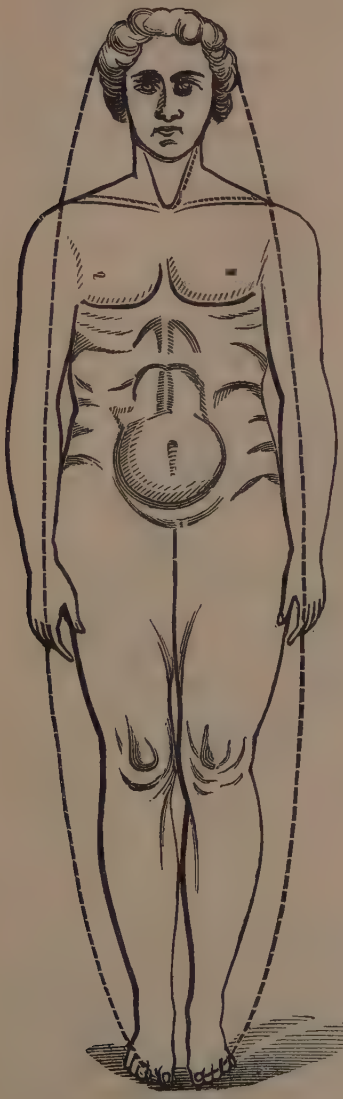
As we rise in the scale of organization, animals are more completely developed, and greater economy is displayed in their preservation. The germ passes from the ovary into an organ prepared for its reception and growth, to which, after fecundation, it becomes attached, and where it remains until sufficiently developed to maintain respiratory life. This organ is called the *womb*, or *uterus*, and is peculiar to most mammalia. This mode of reproduction is termed *viviparous generation.*

The kangaroo and oppossum are provided with a pouch attached to the abdomen, which receives the young born at an early stage of development. They remain in contact with the mammæ, from which they obtain their nourishment, until their growth is sufficiently completed to maintain an independent existence. This is called *marsupial generation.* The variety of reproduction which is most interesting, is that of the human species, and is called *viviparous generation.* It includes the functions of copulation, fecundation, gestation, parturition, and lactation.

For the full and perfect development of mankind, both mental and physical chastity is necessary. The health demands abstinence from unlawful intercourse. Therefore children should not be allowed to read impure works of fiction, which tend to inflame the mind and excite the passions. Only in total abstinence from illicit pleasures is there moral safety and health, while integrity, peace, and happiness, are the conscious rewards of virtue. Impurity travels downward with intemperance, obscenity, and corrupting diseases, to degradation and death. A dissolute, licentious, free-and-easy life is filled with the dregs of human suffering, iniquity, and despair. The penalties which follow a violation of the law of chastity are found to be severe and swiftly retributive.

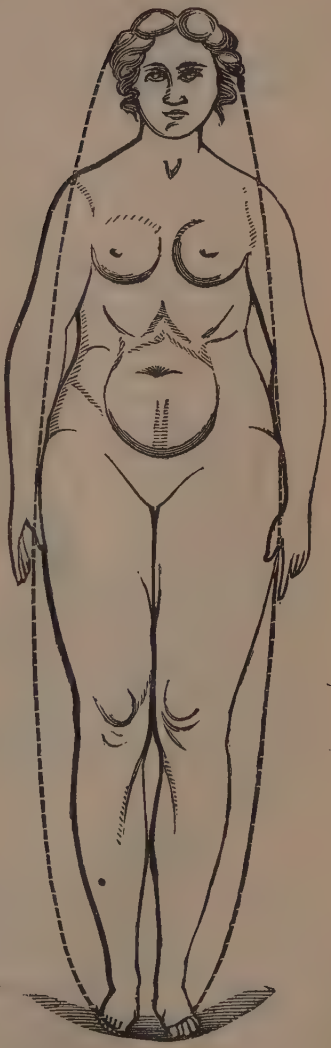
The union of the sexes in holy matrimony is a law of nature

Fig. 100.



Male.

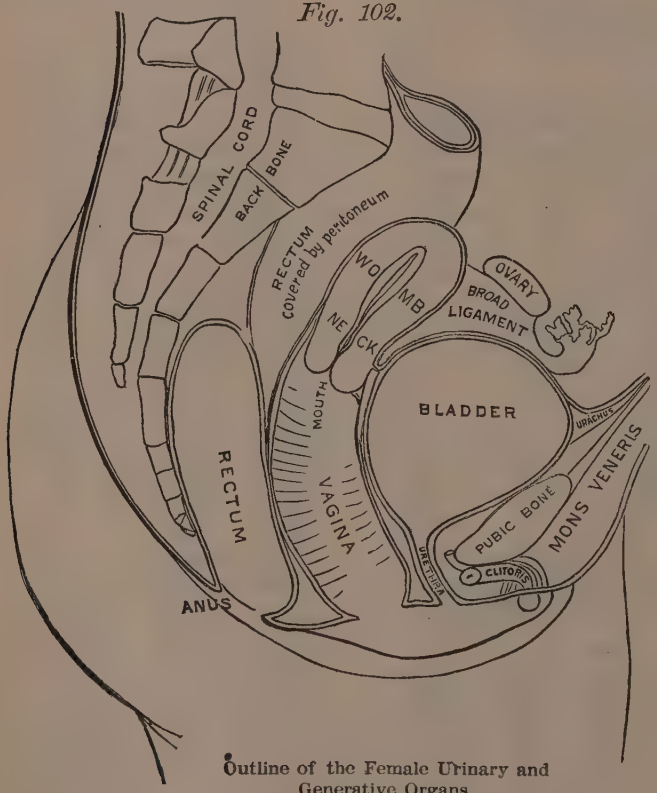
Fig. 101.



Female.

finding sanction in both morals and legislation. Even some of the lower animals unite in this union for life, and instinctively observe the law of conjugal fidelity with a consistency which might put to blush other animals more highly endowed. It is important to discuss this subject and understand our social evils, as well as the unnatural desires of the sexes, which must be controlled or they lead to ruin. Sexual propensities are pos-

Fig. 102.



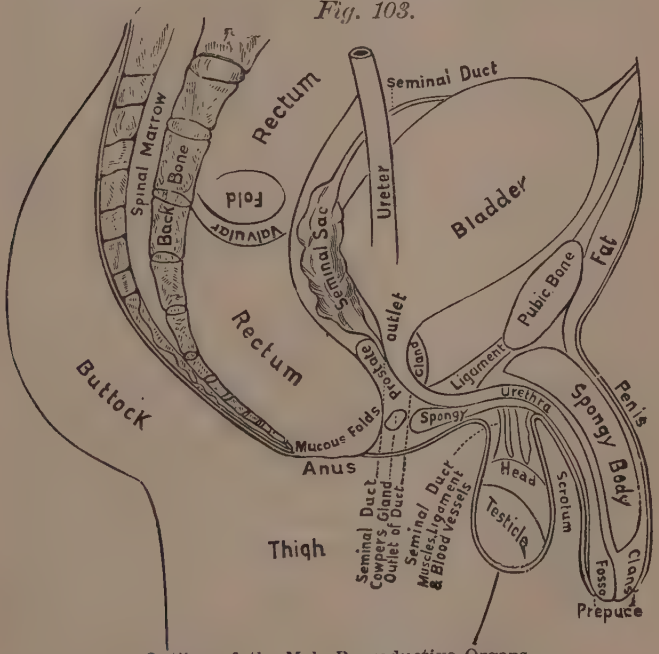
Outline of the Female Urinary and Generative Organs.

sessed by all, and they must be held in abeyance, until they are exercised for legitimate purposes. Hence parents ought to understand the value of mental and physical labor to elevate and strengthen the intellectual and moral faculties of their children, to develop the muscular system and direct the energies of the blood into healthful channels. Vigorous employment

of mind and body engrosses the vital energies and diverts them from undue excitement of the sexual desires.

Sexual generation by pairing individuals is the most economical mode of propagating the species. The lower orders of animals possess wonderful multiplicative powers and their faculty for reproduction is offset by various destructive forces. The increased ability for self-maintenance implies diminished reproductive energy; hence the necessity for greater economy and safety in rearing the young. As certain larvæ and insects in-

Fig. 103.



Outline of the Male Reproductive Organs.

crease, the birds which feed upon them become more numerous. When this means of support becomes inadequate, these same birds diminish in number in proportion to the scarcity of their food. Many have remarked that very prolific seasons are followed by unusual mortality, just as periods of uncommon prosperity precede those of severe disaster.

The increased mental and moral cultivation of mankind imposes upon them the necessity for greater physical culture.

"Wiser and weaker," is a trite saying, and means that the exercise of the higher nature discloses the equivalent necessity of culturing the body, in order to support the increasing expenditures of the former. Mental and moral discipline are essential for a proper understanding how to provide for the body, for physical training increases the capacity of the individual for self-preservation. Constant vigilance is the price of health as well as of liberty.

It is an interesting physiological fact that, while the growth and development of the individual are rapidly progressing, the reproductive powers remain almost inactive, and that the commencement of reproduction not only indicates an arrest of growth, but, in a great measure, contributes toward it. From infancy to puberty, the body and its individual organs, structurally as well as functionally, are in a state of gradual and progressive evolution. Men and women generally increase in stature until the twenty-fifth year, and it is safe to assume that perfection of function is not established until maturity of bodily development is completed. Solidity and strength are represented in the organization of the male, grace, and beauty in that of the female. His broad shoulders represent physical power and the right of dominion, while her bosom is the symbol of love and nutrition. The father encounters hardships, struggles against difficulties, and braves dangers to provide for his household; the mother tenderly supplies the infant's wants, finding relief and pleasure in imparting nourishment, and surrounds helpless infancy with an affection which is unwearied in its countless ministering attentions. Her maternal functions are indicated by greater breadth of the hips. Physical differences so influence their mental natures, that, "before experience has opened their eyes, the dreams of the young man and maiden differ." The development of either is in close sympathy with their organs of reproduction. Any defect of the latter impairs our fair ideal, and detracts from those qualities which impart excellence, and crown the character with perfections. Plainly has Nature marked out, in the organization, very different offices to be performed by the sexes, and has made these distinctions fundamental.

Likewise, Nature expresses the intention of reproduction,

by giving to plants and animals distinctive organs for this purpose. These are endowed with exquisite sensibility, so that their proper exercise produces enjoyment beneficial to both. Excessive sexual indulgence not only prostrates the nervous system, enfeebles the body, and drains the blood of its vivifying elements, but is inconsistent with intellectual activity, morality, and spiritual development. The most entrancing delights and consummate enjoyments are of the emotive order, ideal, abstract, and pure, so inspiring that they overpower the grosser sensual pleasures and diffuse their own sweet chastity and refining influence over all the processes of life.

Hence, the gratification of the sexual instincts should always be moderate. It should be regulated by the judgment and will, and kept within the bounds of health. No person has a moral right to carry this indulgence so far as to produce injurious consequences to either party, and he who cannot refrain from it is in no proper condition to propagate his species. In all culture there must be self-control, and the practice of self-denial at the command of love and justice is always a virtue. Self-government is the polity of our people, and we point with pride and laudable exultation to our political maxims, laws, and free institutions. The family is the prototype of society. If self-restraint be practiced in the marital relation, then the principle of self-control will carry health, strength, and morality into all parts of the commonwealth. The leading characteristics of any nation are but the reflection of the traits of its individual members, and thus the family truly typifies the practical morality and enduring character of a people.

OVULATION.

The *Ovaries* are those essential parts of the generative system of the human female in which the ova are matured. There are two ovaries, one on each side of the uterus, and connected with it by the Fallopian tubes; they are ovoidal bodies about an inch in diameter, and furnish the *germs* or ovules. These latter are very minute, seldom measuring $\frac{1}{120}$ of an inch in diameter, and frequently are not more than half that size. The ovaries develop with the growth of the female, so that, finally, at the pubescent period, they ripen and liberate

an ovum, or germ vesicle, which is carried into the uterine cavity through the Fallopian tubes. With the aid of the microscope, we find that these ova are composed of granular substance, in which is found a miniature yolk surrounded by a transparent membrane, called the *zona pellucida.* This yolk contains a germinal vesicle in which can be discovered a nucleus, called the *germinal spot.* The process of the growth of the ovaries is very gradual, and their function of ripening and discharging an ovum every month into the Fallopian tubes and uterus is not developed until between the twelfth and fifteenth years.

This period, which indicates, by the feelings and ideas, the desires and will, that the subjects are capable of procreation, is called *puberty.* The mind acquires new and more delicate perceptions, the person becomes plumper, the mammæ enlarge, and there is grace and perfection in every movement, a conscious completeness for those relations of life for which this function prepares them. The period of puberty is also indicated by

MENSTRUATION.

The catamenial discharge naturally follows the ripening and liberation of an ovum, and as the ovaries furnish one of these each month, this monthly flow is termed the *menses* (the plural of the Latin word *mensis*, which signifies a month). The menstrual flow continues from three to five days, and is merely the exudation of ordinary venous blood through the mucous lining of the cavity of the uterus. At this time, the nervous system of females is much more sensitive, and from the fact that there is greater aptitude to conception immediately before and after this period, it is supposed that the sexual feeling is then the strongest. When impregnation occurs immediately before the appearance of the menses, their duration is generally shortened, but not sufficiently to establish the suspicion that conception has taken place. The germ is the contribution of the female, which provides the conditions which only require the vivifying principle of the sperm for the development of another being. The period of aptitude for conception terminates at the time both ovulation and menstruation cease,

which, unless brought about earlier by disease, usually occurs about the forty-fifth year of her age.

FECUNDATION.

Since in the beginning God created male and female, and said unto them, "Be fruitful, and multiply, and replenish the earth," it is evident that what was originated by creation must be continued by procreation. The process of generation the reader will find described on pages 12 and 13. Then commences a wonderful series of transforming operations, rudimentary changes preliminary to the formation of tissues, structures and functions, which finally qualify the organism for independent existence. The ovum, when expelled from the ovary, enters the fimbriated, or fringe-like extremity of the Fallopian tube, to commence at once its descent to the uterus. The process of passing through this minute tube varies in different animals. In birds and reptiles, the bulk of the expelled ova is so great as to completely fill up the tube, and it is assisted in its downward course, partly by its own weight and partly by the peristaltic action of the muscular coat of the canal. In the human subject, however, the ova are so minute that nature has supplied a special agent for their direct transmission; otherwise they might be retained, and not reach their destination. Accordingly, the fimbriated, trumpet-shaped extremity of the Fallopian tubes, which is nearest to the ovaries, and, consequently from the ovary first receives the ovum when expelled; is provided with a series of small hairs, termed *cilia*, forming the lining or basement membrane of the tubes, and, the movements of these cilia being towards the uterus, transmit, by their vibrating motion, the ovum from the ovary, through the Fallopian tubes, to the uterus.

The mature ovum, however, is not by itself capable of being converted into the embryo. It requires fecundation by the spermatic fluid of the male, and this may take place immediately on the expulsion of the ovum from the ovary, or during its passage through the Fallopian tube, or, according to Bischoff, Coste, and others, in the cavity of the uterus, or even upon the surface of the ovary. Should impregnation, however, fail, the ovum gradually loses its vitality, and is eventually

expelled by the uterine secretions. It occasionally happens that the descent of the impregnated ovum is arrested, and the formation of the embryo commences in the ovary. This is termed *ovarian pregnancy.* Or again, the ovum may be arrested in its passage through the Fallopian tube, causing what is termed *tubal pregnancy;* or, after it has been expelled from the ovary, it may fail to be received by the fimbriated extremity, and escape into the cavity of the abdomen, forming what has been termed *ventral pregnancy.* If the microscopic germ lodges in some slight interstice of fiber, during its passage through the walls of the uterus, it may be detained long enough to fix itself there, and when this occurs, it is termed *interstitial pregnancy.* All these instances of extra-uterine pregnancy may necessitate the employment of surgical skill, in order that they may terminate with safety to the mother. Their occurrence, however, is very rare.

The intense nervous excitement produced by the act of coition is immediately followed by a corresponding degree of depression, and a too frequent repetition of it is necessarily injurious to health. The secretions of the seminal fluid being, like other secretions, chiefly under the influence of the nervous system, an expenditure of them requires a corresponding renewal. This renewal greatly taxes the corporeal powers, inducing lassitude, nervousness, and debility. It is a well known fact that the highest degree of mental and bodily vigor is inconsistent with more than a moderate indulgence in sexual intercourse.

To ensure strength, symmetry, and high intellectual culture in the human race, requires considerable care. Consideration should be exercised in the choice of a companion for life. Constitutional as well as hereditary ailments demand our closest attention. Age has also its judicious barriers. As before stated, when reproduction commences, growth, as a rule, ceases; therefore, it is inexpedient that matrimony should be consummated before the parties have arrived at mature stature.

PREVENTION OF CONCEPTION.

Much has been written upon the question whether married people have a right to decline the responsibilities of wedlock.

The practice of inducing abortion is not only immoral but criminal, because it is destructive to both the health of the mother and the life of the embryo being. If both the parties to a marriage be feeble, or if they be not temperamentally adapted to each other, so that their children would be deformed, insane, or idiotic, then to beget offspring would be a flagrant wrong. If the mother is already delicate, possessing feeble constitutional powers, she is inadequate to the duties of maternity, *and it is not right to lay such burdens upon her.* Self-preservation is the first law of nature, which all ought to respect. The woman may be able to discharge the duties of a loving wife and companion, when she cannot fulfil those of child-bearing. If the husband love his wife as he ought, he will resign all the pleasure necessary to secure her exemption from the condition of maternity. It seems to us, that it is a great wickedness, unpardonable even; to be so reckless of consequences, and so devoid of all feeling, as to expose a frail, feeble, affectionate woman to those perils which almost insure her death. To enforce pregnancy under such circumstances is a crime. Every true man, therefore, should rather practice self-control and forbearance, than entail on his wife such certain misery, if not danger to life.

Undoubtedly, the trial is great, but if a sacrifice be required, let the husband forbear the gratification of passions which will assuredly be the means of developing in his delicate wife symptoms that may speedily hurry her into a premature grave. Before she has recovered from the effects of bearing, nursing, and rearing one child, ere she has regained proper tone and vigor of body and mind, she is unexpectedly overtaken, *surprised* by the manifestation of symptoms which again indicate pregnancy. Children thus begotten are not apt to be hardy and long-lived. From the love that parents feel for their posterity, from their wishes for their success, from their hopes that they may be useful from every consideration for their future well-being, let them exercise precaution and forbearance, until the wife becomes sufficiently healthy and enduring to bequeath her own vital stamina to the child she bears.

From what has been said on this subject, it behooves the prudent husband to weigh well the injurious, nay criminal

results which may follow his lust. Let him not endanger the health, and it may be the life, of his loving and confiding wife through a lack of self-denial. Let him altogether refrain, rather than be the means of untold misery and, perhaps, the destruction of the person demanding his most cherished love and protection. On so important a subject, we feel we should commit an unpardonable wrong were we not to speak thus plainly and openly. An opportunity has been afforded us, which it would be reprehensible to neglect. We shall indeed feel we have been amply rewarded, if these suggestive remarks of ours tend in any way to remove or alleviate the sufferings of an uncomplaining and loving wife. Our sympathies, always susceptible to the conditions of sorrow and suffering, have been enlisted to give faithfully, explicitly, and plainly, warnings of danger and exhortations to prudence and nothing remains for us but to maintain the principles of morality, and leave to the disposal of a wise and overruling Providence the mystery of all seemingly untoward events. In every condition of life, evils arise, and most of those which are encountered are avoidable. Humanity should be held accountable for those evils which it might, but does not shun.

By a statute of the national government, prevention of pregnancy is considered a punishable offense; whereas every physician is instructed by our standard writers and lecturers on this subject, that not only prevention is necessary in many instances, but even abortion must sometimes be produced in order to save the mother's life. As we view the matter, the law of the national government asserts the ruling principle, and the exceptions to it must be well established by evidence, in order to fully justify such procedure. The family physician may, with the concurrence of other medical counselors, be justified, in rare cases, in advising means for the prevention of conception, but he should exercise this professional duty *only* when the responsibility is shared by other members of the profession, and the circumstances fully and clearly warrant such a practice.

After fecundation, the length of time before conception takes place is variously estimated. Should impregnation occur at the ovary or within the Fallopian tubes, usually about a week

elapses before the fertilized germ enters the uterus, so that ordinarily the interval between the act of insemination and that of conception varies from eight to fourteen days.

DOUBLE CONCEPTION.

If two germs be evolved simultaneously, each may be impregnated by spermatozoa, and a twin pregnancy be the result. This is by no means a rare occurrence. It is very unusual, however, to have one birth followed by another after an interval of three or four months, and each babe present the evidences of full maturity. Perhaps such occurrences may be accounted for on the supposition that the same interval of time elapses between the impregnation of the two germs as there is difference observed in their birth; that after the act of insemination, sperm was carried to each ovary; that one had matured a germ ready for fecundation, then impregnation and conception immediately followed, and the decidua of the uterus hermetically sealed both Fallopian tubes, and thus securely retained the sperm within the other Fallopian canal. The stimulus of the sperm so pent up causes that ovary to mature a germ, although it may do so slowly, and after two or three months it is perfected, fertilized, and a second conception occurs within the uterus. If each embryo observe a regular period of growth and each be born at maturity, there must be an interval of two or three months between their births. But it is far more common for the parturition of the first, displaying signs of full maturity, to coincide with the birth of a second which is immature and which cannot sustain respiratory life. The birth of the latter is brought about prematurely, by the action of the uterus in expelling the matured child.

UTERINE PREGNANCY.

There are many who manifest a laudable desire to understand the physiology of conception, the changes which take place, and the order of their natural occurrence. When impregnation takes place at the ovaries or within the Fallopian tubes, there is exuded upon the inner surface of the womb a peculiar nutritious substance. It flows out of the minute porous openings surrounding the termination of the Fallopian tube within

the uterine cavity, and, thus, is in readiness to receive the germ, and retain it there until it becomes attached. Undoubtedly, the germ imbibes materials from this matter for its nurture and growth. This membranous substance is termed the *decidua*, and disappears after conception is insured. Two membranes form around the embryo; the inner one is called the *amnion*, the outer one the *chorion*. Both serve for the protection of the embryo, and the inner one contains the *liquor amnii*, in which it floats during intra-uterine life. Immediately after conception, the small glands in the neck of the uterus usually throw out a sticky secretion, filling the canal, or uniting its sides, so that nothing can enter or leave the uterine cavity.

The fertilized ovum rapidly develops. After its conception it imbibes nourishment, and there is a disposition in fluids to pass into it, through its delicately-organized membranes. If this process is not involuntary, it is, at all events, at the convenience and use of the developing germ. After three months the embryo is termed the *fœtus*. Its fluids are then so much more highly organized, that some of them are tinged with sanguine hues, and thenceforward acquire the characteristics of red blood. Out of red blood, blood-vessels are formed, and from the incipient development of the heart follow faint lines of arteries, and the engineers of nutrition survey a circulatory system, perfecting the vascular connections by supplementing the arteries with a complete net-work of veins and capillaries.

THE PLACENTA OR AFTERBIRTH.

Whenever conception occurs, a soft, spongy substance is formed between the uterus and the growing ovum, called the *placenta*. It is composed of membrane, cellular tissue, blood-vessels, and connecting filaments. The principal use of this organ seems to be to decarbonate the blood of the fœtus, and to supply it with oxygen. It performs the same function for the fœtus that the lungs do for the organism after birth. It allows the blood of the fœtus to come into very close contact with that of the mother, from which it receives a supply of oxygen, and to which it gives up carbonic acid. This interchange of gases takes place in the placenta, or between it and the uterus, through the intervening membranes. This

decarbonating function requires the agency of the maternal lungs, for the purpose of oxygenating the mother's blood.

The placenta is attached to the uterus by simple adhesion. True, in some instances, morbid adhesion takes place, or a growing together in consequence of inflammation, but the natural junction is one merely of contact, the membranes of the placenta spreading out upon the cavity of the uterus, so that, finally, the former may be entirely removed without a particle of disturbance or injury to the latter. Formerly, it was supposed that the placental vessels penetrated into the substance of the uterus. We know now there is no such continuation of the vessels of the one into the other. The decarbonation of the blood requires the placental and uterine membranes to be in contact with each other.

If the union were vascular, the mother's blood would circulate in the fœtal body, and the impulses of the maternal heart might prove too strong for the delicate organism of the embryo. Besides, the separation of the placenta from the uterus might prove fatal to both parent and offspring. The placenta is only a temporary organ, and when its functions are no longer required, it is easily and safely removed.

THE UMBILICAL CORD.

The fœtal blood is transmitted to and fro between the body of the child and the placenta, by a cord which contains two arteries and one vein. This is called the *umbilical cord*, because it enters the body at the middle of the abdominal region, or *umbilicus*. It is composed, also, of its own proper membranous sheath, or skin, and cellular tissues, besides the blood-vessels. Two months after pregnancy, this cord can be seen, when it commences to grow rapidly.

QUICKENING.

Not until the mother feels motion is she said to be quick with child. That is, the child must be old and strong enough to communicate a physical impulse, which the mother can distinctly perceive, before it is regarded as having received life. This is a fallacy, for the germ has to be endowed with life before organization can begin. The act of impregnation

communicates the vital principle, and from that moment it starts upon its career of development. A long period elapses after this occurs before it can make the mother feel its motions. Before quickening, the attempt to destroy the fœtus is not considered so grave a crime by our laws, but after this quickening takes place, it is deemed a felony.

THE RIGHT TO TERMINATE PREGNANCY.

The expediency and the moral right to prematurely terminate pregnancy must be admitted when weighty and sufficient reasons for it exist. Such a course should never be undertaken, however, without the advice and approval of the family physician, and, whenever it is possible, the counsel of another medical practitioner should be obtained. There may be so great a malformation of the pelvic bones as to preclude delivery at full term, or, as in some instances, the pregnant condition may endanger the life of the mother, because she is not able to retain nourishment upon the stomach. In such cases only, is interference warranted, and even then the advice of some well-informed physician should be first obtained, to make sure that the life of the mother is endangered before so extreme a measure is resorted to.

Those who are qualified for maternal duties should not undertake to defeat the intentions of nature, simply because they love ease and dislike responsibility. Such persons may be considered genteel ladies, but, practically, they are indifferent to the claims of society and posterity. How such selfishness contrasts with the glorious, heroic, Spartan spirit of the young woman who consulted us in reference to the acceptance of a tempting offer of marriage! She was below medium size and delicately organized. She hesitated in her answer, because she was uncertain as to her duty to herself, and to her proposed husband, and on account of the prospective contingencies of matrimony. After she was told that it was doubtful whether she could discharge the obligations of maternity with safety to herself, and yet that she might prove to her intended husband a true and valuable wife, she quickly answered, her black eyes radiant with the high purpose of her soul: "If I assent to this offer, I shall accept the condition and its consequences

also, even if pregnancy be my lot and I know it will cost me my life!" She acceded to the proposal, and years found them one in happiness; then a daughter was born, but the bearing and nursing were too much for her delicate constitution, and she continued to sink until she found rest in the grave. Of all her beautiful and noble sayings, none reflect more moral grandeur of spirit than the one in which she expressed her purpose to prove true to posterity.

THE SIGNS OF PREGNANCY.

The symptoms which indicate pregnancy are cessation of the menses, enlargement of the mammæ, nausea, especially in the morning, distention of the abdomen, and movement of the fœtus. A married woman has reason to suspect that she may have conceived, when, at the proper time, she fails to menstruate, especially when she knows that she is liable to become pregnant. A second menstrual failure strengthens this suspicion, although there are many other causes which might prevent the appearance of the menses, such as disease of the uterus, general debility, or taking cold, and all of these should be taken into account. In the absence of all apparent influences calculated to obstruct the menses, the presumption ordinarily is that pregnancy is the cause of their non-appearance. The evidence is still more conclusive when the mammæ and abdomen enlarge after experiencing morning sickness. Notwithstanding all these symptoms, the audible sound of the heart, or the movements of the fœtus, are the only *infallible* signs of a pregnant condition.

THE DURATION OF PREGNANCY.

The ordinary duration of pregnancy is about forty weeks, or 280 days. It is difficult to foretell exactly when a pregnancy will be completed, for it cannot be known precisely when it began. Some gestations are more protracted than others, but the average duration is the time we have given. A very reasonable way to compute the term, is to reckon three months back from the day when the menses ceased and then add five days to that time, which will be the date of the expected time of confinement. It is customary, also, for women to

count from the middle of the month after the last appearance of the menses, and then allow ten *lunar* months for the term. This computation generally proves correct, except in those instances in which conception takes place immediately before the last appearance of the catamenia. A few women can forecast the time of labor from the occurrence of quickening, by allowing eighteen weeks for the time which has elapsed since conception, and twenty-two more for the time yet to elapse before the confinement. With those in whom quickening occurs regularly in a certain week of pregnancy, this calculation may prove nearly correct.

The English law fixes no precise limit for the legitimacy of the child. In France a child is regarded as lawfully begotten if born within three hundred days after the death or departure of the husband. There are a sufficient number of cases on record to show that gestation may be prolonged two, and even three, weeks beyond the ordinary, or average term. The variation of time may be thus accounted for: after insemination, a considerable interval elapses before fecundation takes place, and the passage of the fertilized germ from the ovary to the uterus is also liable to be retarded. There are many circumstances and conditions which might serve to diminish its ordinary rate of progress, and postpone the date of conception. This would materially lengthen the *apparent* time of gestation.

It is likewise difficult to determine the shortest period at which gestation may terminate, and the child be able to survive. A child may be born and continue to live for some months, after twenty-four or twenty-five weeks of gestation; it was so decided, at least, in an ecclesiastical trial.

We have not the space to describe minutely, or at length, the formation and growth of the fœtal structures, and trace them separately from their origin to their completion at the birth of the child. The student of medicine must gain information by consulting large works and exhaustive treatises on this interesting subject.

What trifling contingencies defeat vitality! Conception may be prevented by acrid secretions, the result of disease of the reproductive organs. Leucorrheal matter may destroy the vitalizing power of the sperm-cells. There are many ways, even

after impregnation, of compromising the existence of the frail embryo. Accidents, injuries, falls, blows, acute diseases, insufficient nutrition and development, in fact, a great variety of occurrences may destroy the life of the embryo, or fœtus. After birth, numerous diseases menace the child. By what constant care must it ever be surrounded, and how often is it snatched from the very jaws of death!

What, then, is man but simply a germ, evolving higher powers, and destined for a purer and nobler existence! His latent life secretly emerges from mysterious obscurity, is incarnated, and borne upon the flowing stream of time to a spiritual destination—to realms of immortality! As he nears those ever-blooming shores, the eye of faith, illuminated by the inspired word, dimly discerns the perennial glories. Quickened by Faith, Hope, and Love, his spirit is transplanted into the garden of paradise, the Eden of happiness, redeemed, perfected, and made glorious in the divine image of Him who hath said, "I am the Way, the *Truth*, and the LIFE."

PART II.

HYGIENE.

CHAPTER I.

HYGIENE DEFINED.—PURE AIR.

The object of hygiene is the *preservation of health.* Hitherto, we have considered, at some length, the science of functions, or *Physiology*, and now, under the head of *Hygiene*, we will give an outline of the means of maintaining the functional integrity of the system. It is difficult to avoid including under this head Preventive Medicine, the special province of which is to abate, remove, or destroy the many causes of disease.

The Greeks bestowed divine honors upon Æsculapius, because he remedied the evils of mankind and healed the sick. The word hygiene is derived from Hygeia, the name of the Greek goddess of health. As male and female are made one in wedlock, so Medicine and Hygiene, restoration and preservation, are inseparably united.

Hygiene inculcates sanitary discipline, medicine, remedial discipline; hygiene prescribes healthful agencies, medical theory and practice, medicinal agencies; hygiene ministers with salubrious and salutary agents, medicine assuages with rectifying properties and qualities; hygiene upholds and sustains, medical practice corrects and heals; the one is preservative and conservative, the other curative and restorative. These discriminations are as radical as health and sickness, as distinct as physiology and pathology, and to confound them is as unnatural as to look for the beauties of health in the chamber of sickness.

The true physician brings to his aid Physiology, Hygiene, and Medicine, and combines the science of the former with the art of the latter, that restoration may be made permanent, and the health preserved by the aid of hygiene. But when any one makes Hygiene exclusively the physician, or deals wholly in hygienic regulations with little respect for physiology, or lavishly advertises with hygienic prefixes, we may at once consider it a display, not of genuine scientific knowledge, but only of the ignorance of a quack. Some of the modern twaddle about health is a conglomeration of the poorest kind of trash, expressing and inculcating more errors and whims than it does common sense. Many persons dilate upon these subjects with amazing flippancy, their mission seeming to be to traduce the profession rather than to act as help-mates and assistants. We do not believe that there is any real argument going on between the educated members of the medical profession but rather that the senseless clamor we occasionally hear comes only from the stampede of some routed, demoralized company of quacks.

In the following pages we shall introduce to the reader's attention several important hygienic subjects, although there are many more that ought to receive special notice. Such as we do mention, demand universal attention, because a disregard of the conditions which we shall enumerate, is fraught with great danger. Our lives are lengthened or shortened by the observance or neglect of the rules of common sense, and these do not require any great personal sacrifice, or the practice of absurd precautions.

PURE AIR FOR RESPIRATION.

Ordinary atmospheric air contains nearly 2,100 parts of oxygen and 7,900 of nitrogen, and about three parts of carbonic acid, in 10,000 parts; expired air contains about 470 parts of carbonic acid, and only between 1500 and 1600 parts of oxygen, while the quantity of nitrogen undergoes little or no alteration. Thus air which has been breathed has lost about five per cent. of oxygen and has gained nearly five per cent. of carbonic acid. In addition the expired air contains

a greater or less quantity of highly decomposable animal matter, and, however dry the atmospheric air may be, the expired air is always saturated with watery vapor, and, no matter what the temperature of the external air may be, that of the exhaled air is always nearly as warm as the blood. An adult man on a average breathes about sixteen times in a minute and at every inspiration takes in about thirty cubic inches of air, and at every expiration exhales about the same amount. Hence, it follows that about 16⅔ cubic feet of air are passed through the lungs of an adult man every hour, and deprived of oxygen and charged with carbonic acid to the amount of nearly five per cent. The more nearly the composition of the external air approaches that of the expired air, the slower will be the diffusion of carbonic acid outwards and of oxygen inwards, and the more charged with carbonic acid and deficient in oxygen will the blood in the lungs become. Asphyxia takes place whenever the proportion of carbonic acid in the external air reaches ten per cent., providing the oxygen is diminished in like proportion, and it does not matter whether this condition of the external air is produced by shutting out fresh air from a room or by increasing the number of persons who are consuming the same air; or by permitting the air to be deprived of oxygen by combustion by a fire. A deficiency of oxygen and an accumulation of carbonic acid in the atmosphere, produce injurious effects, however, long before the asphyxiating point is attained. Headache, drowsiness, and uneasiness occur when less than one per cent. of the oxygen of the atmosphere is replaced by other matters, and the constant breathing of such an atmosphere lowers vitality and predisposes to disease.

Therefore, every human being should be supplied, by proper ventilation, with a sufficient supply of fresh air. Every adult individual ought to have at least 800 cubic feet of air-space to himself, and this space ought to communicate freely with the external atmosphere by means of direct or indirect channels. Hence, a sleeping-room for one adult person should not be less than nine by ten feet in breadth and length and nine feet in heighth. What occurred in the Black Hole at Calcutta is an excellent illustration of the effect of vitiated air. One hundred and forty-six Englishmen were confined in a room eighteen

feet square, with two small windows on one side to admit air. Ten hours after their imprisonment, only twenty-three were alive.

Ventilation of School Rooms. The depression and faintness from which many students suffer, after being confined in a poorly ventilated school room, is clearly traceable to vitiated air, while the evil is often ascribed to excessive mental exertion. The effect of ventilation upon the health of students is a subject of universal interest to parents and educators, and at present is receiving the marked attention of school authorities. Dr. F. Windsor, of Winchester, Mass., made a few pertinent remarks upon this subject in the annual report of the State Board of Health, of Massachusetts, 1874. One of the institutions, which was spoken of in the report of 1873, as a *model*, in the warming and ventilation of which much care had been bestowed, was visited in December, 1873. He reports as follows: "I visited several of the rooms, and found the air in all, offensive to the smell, the odor being such as one would imagine old boots, dirty clothes, and perspiration would make if boiled down together;" again, in the new *model* school-house the hot air enters at two registers in the floor on one side, and makes (or is supposed to make) its exit by a ventilator at the floor, on the other side of the room." The master said "*the air was supposed to have some degree of intelligence, and to know that the ventilator was its proper exit.*" Thorough ventilation has been neglected by many school officials on account of the increased expense it causes. In our climate, during seven months at least, pure atmospheric air must be paid for. The construction of vertical ducts, the extra amount of fuel, and the attendant expenditures are the objections which, in the opinion of many persons, outweigh the health and happiness of the future generation. It is necessary for the proper ventilation of our school rooms that an adequate supply of fresh air should be admitted, which should be warmed before being admitted to the room, and which should be discharged as contaminated, after its expiration. The proper ventilation of the school room consists in the warming and introduction of fresh air from without, and the discharge of the expired and unwholesome air from within. This may be accomplished by

means of doors, windows, chimneys, and finally by ventilators placed, one near the level of the floor, and the other near the ceiling of the room. The ventilators ought to be arranged on the opposite sides of the room, in order to insure a current, and an abundant supply of air. When trustees and patrons realize that pure air is absolutely essential to health, and that their children are being slowly poisoned by the foul air of school rooms, then they will construct our halls of learning with a due regard for the laws of hygiene, and students will not droop under their tasks on account of the absence of Nature's most bountiful gift, *pure air.*

Ventilation of Factories and Workshops. This is a subject which demands the immediate attention of manufacturers and employers. The odors of oil, coal gas, and animal products, render the air foul and stagnant, and often give rise to violent diseases among the operatives. From two to four hundred persons are often confined in workshops six hundred feet long, with no means of ventilation except windows *on one side only.* The air is breathed and re-breathed, until the operatives complain of languor and headache, which they attribute to overwork. The *real* cause of the headache is the inhalation of foul air at every expansion of the lungs. If the proprietors would provide efficient means for ventilating their workshops, the cost of construction would be repaid with compound interest, in the better health of their operatives and the consequent increase of labor. Our manufacturers must learn and practice the great principle of political economy, namely, that the interests of the laborer and employer are mutual.

Ventilation of our dwellings. Not less important is the ventilation of our dwellings; each apartment should be provided with some channel for the escape of the noxious vapors constantly accumulating. Most of the tenements occupied by the poor of our cities are literally dens of poison. Their children inhale disease with their earliest breath. What wonder that our streets are filled with squalid, wan-visaged children! Charity, indeed, visits these miserable homes, bringing garments and food to their half-famished inmates; but she has been slow to learn that fresh air is just as essential to life as food or clothing. Care should be taken by the public

authorities of every city, that its tenement houses do not degenerate into foul hovels, like those of the poor English laborer, so graphically portrayed by Dickens. But ill-ventilated rooms are not found exclusively in the abodes of the poor. True, in the homes of luxury, the effect of vitiated air is modified by food, etc. Men of wealth give far more attention to the architecture and adornment of their houses, to costly decorations and expensive furniture, than to proper ventilation. Farmers, too, are careless in the construction of their cottages. Their dwellings are often built, for convenience, in too close proximity to the barn. Because they do not construct a suitable sewer or drain, the filth and refuse food is thrown out of the back door, where it accumulates and undergoes putrefaction; the vitiated air penetrates the interior of the house, and, there being no means of ventilation, it remains to be breathed by the occupants. The result is, that for the sake of saving a few dollars, which ought to be expended in the construction of necessary flues and sewers, the farmer often sees the child he prizes far more than his broad acres gradually decline, or suddenly fall a victim to fevers or malignant disease. Parents, make your homes healthy, let in the pure, fresh air and bright sunlight, so that your conscience may never upbraid you with being neglectful of the health and lives of your little ones.

SITE FOR HOMES.

Malaria. When about to construct our residences, besides securing proper ventilation and adequate drainage, we ought to select the location for a home on dry soil. Low levels, damp surroundings, and marshy localities not only breed malaria and fevers, but are a prolific cause of colds, coughs, and consumption. Care should be taken not to locate a dwelling where the natural currents of air, or high winds, will be likely to bring the poison of decayed vegetable matter from low lands. Certain brooks, boggy land, ponds, foggy localities, too much shade, all these are favorable to the development of disease. Then the walls of a building should be so constructed as to admit air between the exterior and interior surfaces, otherwise the interior of the house will be damp and unwholesome. In the dead of winter, in northern latitudes,

the house ought to be kept slightly tempered with warmth, both night and day, a condition very favorable to the introduction and change of atmospheric currents. The invigorating tendencies of a dry, pure atmosphere are remarkably beneficial, while air charged with moisture and decay is exceedingly baneful, introducing diseases under various forms.

Neither should the dwelling be shaded by dense foliage. The dampness of the leaves tends to attract malaria. Trees growing a little distance from the house, however, obstruct the transmission of unhealthy vapors arising beyond them. Malaria generally lurks near the surface of the earth, and seems to be more abundant in the night time. Persons sleeping in the upper story of a house may escape its morbid influence, while those occupying apartments on the lower floor, become affected.

DAMP CELLARS.

Damp cellars, under residences, are a fruitful cause of disease. Dr. Sanford B. Hunt, in an article in the *Newark Daily Advertiser*, speaking of the recent epidemic of diphtheria in New York City, says:

"Pestilences that come bodily, like cholera, are faced and beaten by sanitary measures. Those which come more subtly need for their defeat only a higher detective ability and a closer study of causes, many of which are known, but hidden under the cellars of our houses, and which at last are only preventable by public authority and at public expense in letting out the imprisoned dampness which saturates the earth on which our dwellings are built. Where wood rots, men decay. This is clearly shown in the sanitary map printed in the *Times*. In the great district surrounding Central Park, and which participates in its drainage system, there are no cases. On the whole line of Fifth Avenue there are none. The exempt districts are clearly defined by the character of the soil, drainage, and sewerage, and by the topography, which either has natural or artificial drainage, but most of which is so dry that only surface-water and house-filth—which does not exist in those palaces—can affect the health of the residents. But in the tenement houses and on the made lands where running streams have been filled in and natural springs choked up by earth

fillings, diphtheria finds a nidus in which to develop itself. The sanitary map coincides precisely with the topographic map made by Gen. Viele. Where he locates buried springs and water-courses, there we find the plague spots of diphtheria and in the same places, on previous maps prepared by the Board of Health, we find other low types and stealthy diseases, such as typhoid and irruptive fevers, and there we shall find them again when the summer and autumnal pestilences have yielded place to those which belong to the indoor poisoned air in the winter. The experience of other cities, notably London and Dublin, once plague spots and now as healthy as any spot on earth, proves that most of the causations of disease are within the control of the competent sanitary engineer, even in localities crowded beyond American knowledge, and houses built upon soil saturated for centuries with the offal of successive and uncleanly generations. Wet earth, kept wet by the boiling up of imprisoned springs, is a focus of disease. Dry earth is one of the most perfect deodorizers, the best of oxydizers and absorbents, destroying the germs of disease with wonderful certainty. On those two facts rests the theory of public hygiene."

DUST AND DISEASE.

The air we breathe is heavily loaded with minute particles of floating dust, their presence being revealed only by intense local illumination. Professor Tyndall says: "solar light, in passing through a dark room, reveals its track by illuminating the dust floating in the air. 'The sun,' says Daniel Culverwell, 'discovers atoms, though they be invisible by candle-light, and makes them dance naked in his beams.'"

After giving the details and results of a series of experiments in which he attempted to extract the dust from the air of the Royal Institute by passing it through a tube containing fragments of glass wetted with concentrated sulphuric acid, and thence through a second tube containing fragments of marble wetted with a strong solution of caustic potash, which experiments were attended with perfect failure, the Professor continues, "I tried to intercept this floating matter in various ways; and on the day just mentioned, prior to sending the

air through the drying apparatus, I carefully permitted it to pass over the tip of a spirit-lamp flame. The floating matter no longer appeared, having been burnt up by the flame. It was, therefore, of *organic origin.* I was by no means prepared for this result; for I had thought that the dust of our air was, in great part, inorganic and non-combustile." In a foot note he says, "according to an analysis kindly furnished me by Dr. Percy, the dust collected *from the walls* of the British Museum contains fully fifty per cent. of inorganic matter. I have every confidence in the results of this distinguished chemist; they show that the *floating* dust of our rooms is, as it were, winnowed from the heavier matter." Again he says: "the air of our London rooms is loaded with this organic dust, nor is the country air free from its presence. However ordinary daylight may permit it to disguise itself, a sufficiently powerful beam causes dust suspended in air to appear almost as a semi-solid. Nobody could, in the first instance, without repugnance, place the mouth at the illuminated focus of the electric beam and inhale the thickly-massed dust revealed there. Nor is the repugnance abolished by the reflection that, although we do not see the floating particles, we are taking them into our lungs every hour and minute of our lives." "The notion was expressed by Kircher and favored by Linnæus, that epidemic diseases are due to germs which float in the atmosphere, enter the body, and produce disturbance by the development within the body of parasitic life. While it was struggling against great odds, this theory found an expounder and a defender in the President of this institution. At a time when most of his medical brethren considered it a wild dream, Sir Henry Holland contended that some form of the germ-theory was probably true." Professor Tyndall proposes means by the application of which air loaded with noxious particles may be freed from them before entering the air passages. The following embodies his suggestions on this point:

COTTON-WOOL RESPIRATOR.

"I now empty my lungs as perfectly as possible, and placing a handful of cotton-wool against my mouth and nostrils, inhale through it. There is no difficulty in thus filling the lungs

with air. On expiring this air through a glass tube, its freedom from floating matter is at once manifest. From the very beginning of the act of expiration the beam is pierced by a black aperture. The first puff from the lungs abolishes the illuminated dust, and puts a patch of darkness in its place; and the darkness continues throughout the entire course of the expiration. When the tube is placed below the beam and moved to and fro, the same smoke-like appearance as that obtained with a flame is observed. *In short, the cotton-wool, when used in sufficient quantity, and with due care, completely intercepts the floating matter on its way to the lungs.*

The application of these experiments is obvious. If a physician wishes to hold back from the lungs of his patient, or from his own, the germs or virus by which contagious disease is propagated, he will employ a cotton-wool respirator. If perfectly filtered, attendants may breathe the air unharmed. In all probability the protection of the lungs and mouth will be the protection of the entire system. For it is exceedingly probable that the germs which lodge in the air-passages, or find their way with the saliva into the stomach with its absorbent system, are those which sow in the body epidemic disease. If this be so, then disease can be warded off by carefully prepared filters of cotton-wool. I should be most willing to test their efficacy in my own person. But apart from all doubtful applications, it is perfectly certain that various noxious trades in England may be rendered harmless by the use of such filters. I have had conclusive evidence of this from people engaged in such trades. A form of respirator devised by Mr. Garrick, a hotel proprietor in Glasgow, in which inhalation and exhalation occur through two different valves, the one permitting the air to enter through the cotton-wool, and the other permitting the exit of the air direct into the atmosphere, is well adapted for this purpose But other forms might readily be devised."

LIGHT AND HEALTH.

Our dwellings ought freely to admit the sunlight. Diseases which have baffled the skill of physicians have been known to yield when the patients were removed from dark rooms to light and cheerful apartments. Lavoisier placed light, as an

agent of health, even before pure air. Plants which grow in the shade are slender and weak, and children brought up in dark rooms are pale, sallow, and rickety. It is a bad practice to avoid the sunlight through fear of spoiling the complexion, since the sun's rays are necessary to give to it the delicate tints of beauty and health. Air is necessary for the first inspiration and the last expiration of our lives, but the purity and healthfulness of the atmosphere depend upon the warming rays of the sun, while our bodies require light in order that their functions may be properly performed. We know that without solar light, there can be no proper vegetable growth, and it is equally necessary for the beauty and perfection of animal development. Our dwellings should therefore be well lighted and made as bright and cheerful as possible. Women who curtain the windows, soften the light, and tint the room with some mellow shade, may do so in order to hide their own faulty complexions. The skin of persons confined in dungeons or in deep mines becomes pale or sickly yellow, the blood grows watery, the skin blotches, and dropsy often intervenes. On the other hand, invalids carried out from darkened chambers into the bright sunlight are stimulated, the skin browns, nutrition becomes more active, the blood improves, and they become convalescent. Light is especially necessary for the healthy growth of children. There is nothing more beautiful and exhilarating than the glorious sunlight. Let its luminous, warming, and physiological forces come freely into our dwellings, enter into the chemistry of life, animate the spirits, and pervade our homes and our hearts with its joy-inspiring and health-imparting influences.

CHAPTER II.

FOOD. BEVERAGES. ALCOHOLIC LIQUORS. CLOTHING.

The human body is continually undergoing changes, which commence with the earliest dawn of existence and end only with death. The old and worn-out materials are constantly being removed to make room for the new. Growth and development, as well as the elimination of worn-out and useless matter, continually require new supplies, which are to be derived from our food. To fulfill these demands it is necessary that the nutriment should be of the proper quality, and of sufficient variety to furnish all the constituents of the healthy body. In order that food may be of utility, like other building materials, it must undergo preparation; the crude substance must be worked up into proper condition and shape for use, in other words, it must be *digested.* But this does not end the process of supply, each different substance must be taken by the different bands of workmen, after due preparation in the workshop, to its appropriate locality in the structure, and there fitted into its proper place; this is *assimilation.* In reality it becomes a portion of the body, and is advantageous in maintaining the symmetry and usefulness of the part to which it is assigned; this constitutes the ultimate object of food, *nutrition.*

Eating is the process of receiving the food into the mouth, *i. e., prehension; mastication and insalivation*—minutely dividing and mixing it with the saliva; *deglutition*—conveying it to the stomach. Plenty of time should be taken at meals to thoroughly masticate the food and mix it with the saliva, which,

being one of the natural solvents, favors its farther solution by the juices of the stomach; the healthy action of the digestive powers is favored by tranquillity of mind, agreeable associations, and pleasant conversation while eating. It is proverbial of the American people that they bolt their food whole, washing it down with various fluids, thus forcing the stomach to perform not only its own duties, but also those of the teeth and salivary glands. This manner of dispatching food, which should go through the natural process above described, is not without its baleful consequences, for the Americans are called a nation of *dyspeptics.*

Eating slowly, masticating the food thoroughly, and drinking but moderately during meals, will allow the juices of the stomach to fulfill their proper function, and healthy digestion and nutrition will result. If the food is swallowed nearly whole, not only will a longer time be required for its solution, but frequently it will ferment and begin to decay before nutritive transformation can be effected, even when the gastric juice is undiluted with the fluids which the hurried eater imbibes during his meal.

Regularity of Meals cannot be too strongly insisted upon. The stomach, as well as other parts of the body, must have intervals of rest or its energies are soon exhausted, its functions impaired, and *dyspepsia* is the result. Nothing of the character of food should ever be taken except at regular meal times. Some persons are munching cakes, apples, nuts, candies, etc., at all hours, and then wonder why they have weak stomachs. They take their meals regularly, and neither eat rapidly nor too much, and yet they are troubled with indigestion. The truth is they keep their stomachs almost constantly at work, and hence tired out, which is the occasion of the annoyance and distress they experience.

Eating too much. It should always be remembered that the nutrition of our bodies does not depend upon the amount eaten, but upon the amount that is digested. Eating too much is nearly as bad as swallowing the food whole. The stomach is unable to digest all of it, and it ferments and gives rise to unpleasant results. The unnatural distention of the stomach with food causes it to press upon the neighboring

organs, interfering with the proper performance of their functions, and, if frequently repeated, gives rise to serious disease. People more frequently eat too much than too little, and to omit a meal when the stomach is slightly deranged is frequently the best medicine. It is an excellent plan to rise from the table before the desire for food is quite satisfied.

Late Suppers. It is generally conceded that late suppers are injurious, and should never be indulged in. Persons who dine late have little need of food after their dinner, unless they are kept up until a late hour. In such cases a moderate meal may be allowed, but it should be eaten two or three hours before retiring. Those who dine in the middle of the day should have supper, but sufficiently early so that a proper length of time may elapse before going to bed, in order that active digestion may not be required during sleep. On the other hand, it is not advisable to go wholly without this meal, but the food eaten should be light, easily digestible, and moderate in quantity. Persons who indulge in hearty suppers at late hours, usually experience a poor night's rest, and wake the next morning unrefreshed, with a headache and a deranged stomach. Occasionally more serious consequences follow; gastric disorders result, apoplexy is induced; or, perhaps, the individual never wakes.

Feeding Infants. For at least six or seven months after birth, the most appropriate food for an infant is its mother's milk, which, when the parent is healthy, is rich in all the elements necessary for its growth and support. Next to the mother's milk, that of a healthy nurse should be preferred; in the absence of both, milk from a cow that has recently calved is the most natural substitute, in the proportion of one part water to two parts milk, slightly sweetened. The milk used should be from but one cow. All sorts of paps, gruels, panadas, cordials, laxatives, etc., should be strictly prohibited, for their employment as food cannot be too severely censured. Vomiting, diarrhea, colic, green stools, griping, etc., are the inevitable results of their continued use. The child should be fed at regular intervals, of about two hours, and be limited to a proper amount each time, which, during the first month, is about two ounces. From 11 P. M. to 5 A. M. the child

should be nursed but once. As the child grows older the intervals should be lengthened, and the amount taken at a time gradually increased. The plan of gorging the infant's stomach with food every time it cries, cannot be too emphatically condemned.

After the sixth or seventh month, in addition to milk, bits of bread may be allowed, the quantity being slowly increased, thus permitting the diet to change gradually from fluid to solid food, so that, when the teeth are sufficiently developed for mastication, the child has become accustomed to various kinds of nourishment. Over-feeding, and continually dosing the child with cordial, soothing syrups, etc., are the most fruitful sources of infant mortality, and should receive the condemnation of every mother in the land.

Preparation of Food. The production of pure blood requires that all the food selected should be rich in nutritious elements, and well cooked. To announce a standard by which all persons shall be guided in the selection and preparation of their food is impossible. Especially is this the case in a country the inhabitants of which represent almost every nation on the face of the globe. Travelers are aware that there is as much diversity in the articles of food and methods of cookery, among the various nationalities, as in the erection of their dwellings, and in their mental characteristics. In America we have a conglomeration of all these peoples; and for a native American to lay down rules of cookery for his German, French, English, Welsh, and Irish neighbors, or *vice versa*, is useless, for they will seldom read them, and, therefore, cannot profit by them. There are, however, certain conditions recognized by the hygienic writers of every nation. The adequate nutrition of the organic tissues demands a plentiful supply of pure blood, or the digestive apparatus will become impaired, the mental processes deranged, and the entire bony and muscular systems will lose their strength and elasticity, and be incapacitated for labor.

Different Kinds of Food Required. The different periods and circumstances of life require their appropriate food, and the welfare of mankind demands that it should supply both the inorganic and organic substances employed in the development of every tissue. The inorganic elements employed in our

construction, of which *Phosphorus*, *Sulphur*, *Soda*, *Iron*, *Lime*, and *Potash* are the most important, are not considered as aliments, but are found in the organic kingdom, variously arranged and combined with organic materials in sufficient quantities for ordinary purposes. When, however, from any cause, a lack of any of these occurs, so that their relative normal proportions are deranged, the system suffers, and restoration to a healthy condition can only be accomplished by supplying the deficiency; this may be done by selecting the article of food richest in the element which is wanting, or by introducing it as a medicine. It must be remembered that those substances which enter into the construction of the human fabric, are not promiscuously employed by nature, but that each and every one is destined to fulfill a definite indication.

Lime enters largely into the formation of bone, either as a *phosphate* or a *carbonate*, and is required in much greater quantities in early life, while the bone is undergoing development, than afterwards. In childhood the bones are composed largely of animal matter, being pliable and easily moulded. For this reason the limbs of young children bend under the weight of their bodies, and unless care is taken they become bow-legged and distorted. Whenever there is a continued deficiency of the earthy constituents, disease of the bones ensues. Therefore, during childhood, and particularly during the period of dentition, or teething, the food should be nutritious and at the same time contain a due proportion of lime, which is preferable in the form of a phosphate. When it cannot be furnished by the food, it should be supplied artificially. Delayed, prolonged, and tedious dentition generally arises from a deficiency of lime.

With the advance of age it accumulates, and the bone becomes hard, inelastic, and capable of supporting heavy weights. Farther on, as in old age, the animal matter of bone becomes diminished, and lime takes its place, so that the bones become brittle and are easily broken. Lime exists largely in hard water, and to a greater or less extent in milk, and in nearly all foods except those of an acid character.

Phosphorus exists in various combinations in different parts of the body, particularly in the brain and nervous system. Persons who perform a large amount of mental labor require

more phosphorus than those engaged in other pursuits. It exists largely in the hulls of wheat, in fish, and in eggs. It should enter to a considerable extent into the diet of brain workers, and the bread consumed by them should be made of unbolted flour.

Sulphur, *Iron*, *Soda*, and *Potash* are all necessary in the various tissues of the body, and deficiency of any one of them, for any considerable length of time, results in disease. They are all supplied, variously arranged and combined, in both animal and vegetable food; in some articles they exist to a considerable extent, in others in much smaller quantities. *Sulphur* exists in eggs and in the flesh of animals, and often in water. *Iron* exists in the yolk of eggs, in flesh, and in several vegetables. *Soda* is supplied in nearly all food, and largely in common salt, which is a composition of sodium and hydrochloric acid, the latter entering into the gastric juice. *Potash* exists, in some form or other, in sufficient quantities for health, in both vegetable and animal food.

Classes of Food. All kinds of food substances may be divided into four classes: *Proteids*, *Fats*, *Amyloids*, and *Minerals*. Proteids are composed of the four elements, carbon, hydrogen, oxygen, and nitrogen, sometimes combined with sulphur and phosphorus. In this class are included the *gluten* of flour; the *albumen*, or white of eggs; and the *serum* of the blood; the *fibrin* of the blood; *syntonin*, the chief constituent of muscle and flesh, and *casein*, one of the chief constituents of cheese, and many other similar, but less frequent substances.

Fats are composed of carbon, hydrogen, and oxygen only, and contain more hydrogen than would be required to form water if united with the oxygen which they contain. All vegetable and animal oils and fatty matters are included in this class.

Amyloids consist of substances which are also composed of carbon, oxygen, and hydrogen only; but they contain just enough hydrogen to produce water when combined with their oxygen, or two parts of hydrogen to one of oxygen. This division includes *sugar*, *starch*, *dextrine*, and *gum*. The above three classes of food-stuffs are only obtained through the activity of living organisms, vegetable or animal, and have

been, therefore, appropriately termed by Prof. Huxley, *vital food-stuffs.*

The mineral food-stuffs may, as we have seen, be procured from either the living or the non-living world. They include water and various earthy, metallic, and alkaline salts.

Variety of Food Necessary. No substance can serve permanently for food except it contains a certain quantity of proteid matter in the shape of albumen, fibrin, casein, etc., and, on the other hand, any substance containing proteid matter in a shape in which it can be readily assimilated, may serve as a permanent vital food-stuff. Every substance, which is to serve as a permanent food, must contain a sufficient quantity, ready-made, of this most important and complex constituent of the body. In addition, it must also contain a sufficient quantity of the mineral ingredients which enter into the composition of the body. Its power of supporting life and maintaining the weight and composition of the body remains unaltered, whether it contains fats or amyloids or not. The secretion of urea, and, consequently, the loss of nitrogen, goes on continually, and the body, therefore, must necessarily waste unless the supply of proteid matter is constantly renewed, since this is the only class of foods that contains nitrogen in any considerable quantity. There can be no absolute necessity for any other food-stuffs but those containing the proteid and mineral elements of the body. From what has been said, it will readily be seen that whether an animal be carnivorous or herbivorous, it begins to starve as soon as its vital food-stuffs consist only of amyloids, or fats, or both. It suffers from what has been termed *nitrogen starvation*, and if proteid matters are withheld entirely, it soon dies. In such a case, and still more in the case of an animal which is entirely deprived of vital food, the organism, as long as it continues to live, feeds upon itself, the waste products necessarily being formed at the expense of its own body.

Although proteid matter is the essential element of food, and under certain circumstances may be sufficient of itself to support the body, it is a very uneconomical food. The white of an egg, which may be taken as a type of the proteids, contains about fifteen per cent. of nitrogen, and fifty-three per cent. of carbon; therefore, a man feeding upon this, would

take in about three and a half times as much carbon as nitrogen. It has been proved that a healthy, adult man, taking a fair amount of exercise and maintaining his weight and body temperature, eliminates about thirteen times as much carbon as nitrogen. However, if he is to get his necessary quantity, about 4000 grains of carbon, out of albumen, he must eat 7,547 grains of that substance; but this quantity of albumen contains nearly four times as much nitrogen as he requires. In other words, it takes about four pounds of lean meat, free from fat, to furnish 4,000 grains of carbon, the quantity required, whereas one pound yields the requisite quantity of nitrogen. Thus a man restricted exclusively to a proteid diet, must take an enormous quantity of it. This would involve a large amount of unnecessary physiological labor, to comminute, dissolve, and absorb the food, and to excrete the superfluous nitrogenous matter. Unproductive labor should be avoided as much in physiological as in political economy. The universal practice of subsisting on a mixed diet, in which proteids are mixed with fats or amyloids, is therefore justifiable.

Fats contain about 80 per cent. of carbon, and amyloids about 40 per cent. We have seen that there is sufficient nitrogen in a pound of meat free from fat, to supply a healthy adult man for twenty-four hours, but that it contains only one-fourth of the quantity of carbon required. About half a pound of fat, or one pound of sugar, will supply the quantity of carbon necessary. The fat, if properly subdivided, and the sugar, by reason of its solubility, pass with great ease into the circulation, the physiological labor, consequently, being reduced to a minimum.

Several common articles of diet contain in themselves all the necessary elements. Thus, butchers' meat ordinarily contains from 30 to 50 per cent. of fat; and bread contains the proteid, gluten, and the amyloids, starch and sugar, together with minute quantities of fat. However, on account of the proportion in which these proteid and other components of the body exist in these substances, neither of them, by itself, is such a physiologically economical food, as it is when combined with the other in the proportion of three to eight, or three-quarters of a pound of meat to two pounds of bread a day.

It is evident that a variety of food is necessary for health. Animals fed exclusively upon one class, or upon a single article of diet, droop and die; and in the human family we know that the constant use of one kind of diet causes disgust, even when not very long continued. Consequently, we infer that the welfare of man demands that his food be of sufficient variety to supply his body with all of its component parts. If this is not done the appetite is deranged, and often craves the very article which is necessary to supply the deficiency. After the component parts of the organism have assimilated the nutritious elements of particular kinds of food for a certain length of time, they lose the power of effecting the necessary changes for proper nutrition, and a supply of other material is imperatively demanded. When the diet has been long restricted to proteids, consisting largely of salt meats, fresh vegetables and fruits containing the organic acids, become indispensable; otherwise, the scorbutic condition, or scurvy, is almost sure to be developed. Fresh vegetables and fruits should be eaten in considerable quantities at the proper seasons.

Value of Animal Food. The principal animal food used in this country consists of *Pork*, *Mutton*, *Beef*, and *Fish*. Beef and mutton are rich in muscle-producing material. Although pork is extensively produced in some portions of this country, and enters largely into the diet of some classes, yet its use, except in winter, is not to be encouraged. The same amount of beef would give far greater returns in muscular power.

In addition to the meats mentioned, *Wild Game* furnishes palatable, nutritious, and easily-digested food. *Domestic Fowls*, when young, are excellent, and with the exception of geese and ducks, are easily digested. *Wild Birds* are considered much healthier food than those which are domesticated. All of these contain more or less of the elements which enter into the composition of the four classes of foods.

Vegetable Foods. *Wheat* is rich in all the elements which compose the four classes, and, when the flour is unbolted, it is one of the best articles for supplying all the elements.

Barley stands next to wheat in nourishing qualities, but is not so palatable.

Oats are rich in all the elements necessary for nutrition. Oat-meal is a favorite article of diet among the Scotch, and, judging from their hardy constitutions, their choice is well founded. In consequence of the large proportion of phosphorus which they contain, they are capable of furnishing a large amount of nourishment for the brain.

Rye is nutritious, but it is not so rich in tissue-forming material.

Indian Corn is an article well known and extensively used throughout the United States, and is a truly valuable one, capable of being prepared in a great variety of ways for food. It contains more carbon than wheat, and less nitrogen and phosphorus, though enough of both to be extremely valuable.

Rice is rather meagre in nutriment; it contains but little phosphorous matter, with less carbon than other cereals, and is best and most generally employed as a diet in tropical countries.

Beans and Peas are rich in nutritious matter, and furnish the manual laborer with a cheap and wholesome diet.

The *Potato* is the most valuable of all fresh vegetables grown in temperate climates. Its flavor is very agreeable, and it contains very important nutritive and medicinal qualities, and is eaten almost daily by nearly every family in North America. Until very recently it, with the addition of a little butter-milk or skim-milk, constituted almost the sole diet of the Irish people. The average composition of the potato is stated by Dr. Smith to be as follows: Water 75 per cent., nitrogen 2.1, starch 18.8, sugar 3.2, fat 0.2, salts 0.7. The relative values of different potatoes may be ascertained very correctly by weighing them in the hand, for the heavier the tuber the more starch it contains.

Turnip and Cabbage are 92.5 per cent. water, and, consequently, poor in nutrition, though they are very palatable. The solid portions of cabbage, however, are rich in albumen.

It is evident that the quantity necessary to maintain the system in proper condition must be greatly modified by the habits of life, the condition of the organism, the age, the sex, and the climate. The daily loss of substance which must be

replaced by material from without, as we have seen, is very great. In addition to the loss of carbon and nitrogen, about four and a half pounds of water are removed from the system in twenty-four hours, and it is necessary that about this quantity should be introduced into the system in some form or other, however much it may be adulterated. Professor Dalton states: "From experiments performed while living on an exclusive diet of bread, fresh meat, and butter, with coffee and water for drink, we have found that the entire quantity of food required during twenty-four hours by a man in full health and taking free exercise in the open air is as follows:

Meat,	16 oz.,	or 1.03 lb.	avoir.
Bread,	19 "	1.19 "	"
Butter or fat,	3½ "	0.22 "	"
Water,	52 fluid oz.,	3.38 "	"

That is to say, rather less than two and a half pounds of solid food, and rather over three pounds of liquid food."

Climate exerts an important influence on the quantity and quality of food required by the system. In northern latitudes the inhabitants are exposed to extreme cold and require an abundant supply of food, and especially that which contains a large amount of fat. On this account fat meat is taken in large quantities and with a relish. The quantity of food consumed by the natives of the Arctic zone is almost incredible. The Russian Admiral, Saritcheff, relates that one of the Esquimaux in his presence devoured a mass of boiled rice and butter which weighed twenty-eight pounds, at a single meal, and Dr. Hayes states that usually the daily ration of an Esquimau is from twelve to fifteen pounds of meat, one-third of which is fat, and on one occasion he saw a man eat ten pounds of walrus flesh at a single meal. The intense cold creates a constant craving for fatty articles of food, and some members of his own party were in the habit of drinking the contents of the oil-kettle with great apparent relish.

Digestibility of Food. Unless an article of diet can be digested it is of no value, no matter how rich it may be in nutriment. The quantity of food taken, will influence to a considerable extent, the time consumed in its digestion The

stomachs of all are not alike in this respect, and the subject of time has been a difficult one to determine. The experiments of Dr. Beaumont with the Canadian, St. Martin, who accidentally discharged the contents of a loaded gun into his stomach, creating an external opening through which the process of digestion could be observed, have furnished us with the following table, which is correct enough to show relatively, if not absolutely, the time required for the digestion of various articles:

ARTICLES OF DIET.	Mode of Preparation.	Hours.	Min.
Milk	Boiled	2	00
"	Raw	2	15
Eggs, fresh	"	2	00
" "	Whipped	1	30
" "	Roasted	2	15
" "	Soft boiled	3	00
" "	Hard boiled	3	30
" "	Fried	3	30
Custard	Baked	2	45
Codfish, cured, dry	Boiled	2	00
Trout, salmon, fresh	"	1	30
" " "	Fried	1	30
Bass, striped, "	Broiled	3	00
Flounder, "	Fried	3	30
Catfish, "	"	3	30
Salmon, salted	Boiled	4	00
Oysters, fresh	Raw	2	55
" "	Roasted	3	15
" "	Stewed	3	30
Venison steak	Broiled	1	35
Pig, sucking	Roasted	2	30
Lamb, fresh	Broiled	2	30
Beef, fresh, lean, dry	Roasted	3	30
" with mustard, etc	Boiled	3	10
" " salt only	"	3	36
" " "	Fried	4	00
" fresh, lean, rare	Roasted	3	00
Beefsteak	Broiled	3	00
Mutton, fresh	"	3	00
" "	Boiled	3	00
" "	Roasted	3	15
Veal, fresh	Broiled	4	00
" "	Fried	4	30
Porksteak	Broiled	3	15
Pork, fat and lean	Roasted	5	15
" recently salted	Raw	3	00
" " "	Stewed	3	00
" " "	Broiled	3	15

ARTICLES OF DIET.	Mode of Preparation.	Hours.	Min.
Pork, recently salted	Fried	4	15
" " "	Boiled	4	30
Turkey, wild	Roasted	2	18
" tame	"	2	30
" "	Boiled	2	25
Goose, wild	Roasted	2	30
Chickens, full-grown	Fricasseed	2	45
Fowls, domestic	Boiled	4	00
" "	Roasted	4	00
Ducks, tame	"	4	00
" wild	"	4	30
Soup, barley	Boiled	1	30
" bean	"	3	00
" chicken	"	3	00
" mutton	"	3	30
" oyster	"	3	30
" beef, vegetables, and bread	"	4	00
" marrow-bones	"	4	15
Pig's feet, soused	"	1	00
Tripe, soused	"	1	00
Brains, animal	"	1	45
Spinal marrow, animal	"	2	40
Liver, beef, fresh	Broiled	2	00
Heart, animal	Fried	4	00
Cartilage	Boiled	4	15
Tendon	"	5	30
Hash, meat, and vegetables	Warmed	2	30
Sausage, fresh	Broiled	3	20
Gelatine	Boiled	2	30
Cheese, old, strong	Raw	3	30
Green corn and beans	Boiled	3	45
Beans, pod	"	2	30
Parsnips	"	2	30
Potatoes	Roasted	2	30
"	Baked	2	30
"	Boiled	2	30
Cabbage, head	Raw	2	30
" " with vinegar	"	2	00
" "	Boiled	4	30
Carrot, orange	"	3	13
Turnips, flat	"	3	30
Beets	"	3	45
Bread, corn	Baked	3	15
" wheat, fresh	"	3	30
Apples, sweet, mellow	Raw	1	30
" sour, "	"	2	00
" " hard	"	2	50

Milk is more easily digested than almost any other article of food. It is very nutritious, and, on account of the variety of the elements which it contains, it is extremely valuable as

article of diet, especially when the digestive powers are weakened, as in fevers, or during convalescence from any acute disease. Eggs are also very nutritious and easily digested. Whipped eggs are digested and assimilated with great ease. Fish, as a rule, are more speedily digested than is the flesh of warm-blooded animals. Oysters, especially when taken raw, are very easily digested. We have known dyspeptics who were unable to digest any other kind of animal food, to subsist for a considerable period upon raw oysters. The flesh of mammalia seems to be more easily digested than that of birds. Beef, mutton, lamb, and venison are easily digested, while fat roast pork and veal are digested with difficulty. According to the foregoing table vegetables were digested in about the same time as ordinary animal food, but it should be remembered that a great part of the digestion of these is effected in the small intestine. Soups are, as a rule, very quickly digested. The time required for the digestion of bread is about the same as that required for the digestion of ordinary meats. Boiled cabbage is one of the most difficult substances to digest.

Cookery. "Cookery," says Mrs. Owen, "Is the art of turning every morsel to the best use; it is the exercise of skill, thought, and ingenuity to make every particle of food yield the utmost nourishment and pleasure, of which it is capable." We are indebted to this practical woman for many valuable suggestions in this art; and some of our recommendations are drawn from her experience.

Soups. The nutritious properties, tone, and sweetness of soup depend in the first place upon the freshness and quality of the meat; secondly on the manner in which it is boiled. Soups should be nicely and delicately seasoned, according to the taste of the consumer, by using parsley, sage, savory, thyme, sweet marjoram, sweet basil, or any of the vegetable condiments. These may be raised in the garden, or obtained at the drug stores, sifted and prepared for use. In extracting the juices of meats, in order that soups may be most nutritious, it is important that the meat be put into *cold* water, or that which is not so hot as to coagulate the albumen (which would prevent it from being extracted), and then, by slow heat and

a simmering process, the most nutritious properties will be brought out.

Beef Soup may be made of any bone of the beef, by putting it into cold water, adding a little salt, and skimming it well just before it boils. If a vegetable flavor be desired, celery, carrots, onions, turnips, cabbage, or potatoes, may be added, in sufficient quantities to suit the taste.

Mutton Soup may be made from the fore-quarter, in the same manner as described above, thickened with pearl-barley or rice, and flavored to suit the taste.

Boiled Fish. Clean the fish nicely, then sprinkle flour on a cloth and wrap it around them; salt the water, and, when it boils, put in the fish; let them boil half an hour, then carefully remove them to a platter, adding egg sauce and parsley. To *bake fish*, prepare by cleaning, scaling, etc., and let them remain in salt water for a short time. Make a stuffing of the crumbs of light bread, and add to it a little salt, pepper, butter, and sweet herbs, and stir with a spoon. Then fill the fish with the stuffing and sew it up. Put on butter, salt, pepper, and flour, having enough water in the dish to keep it from burning, and baste often. A four pound fish will bake in fifty or sixty minutes.

Broiled Steak. Sirloin and porter-house steaks should be broiled quickly. Preserve them on ice for a day or two and their tenderness is much increased. Never broil them until the meal is ready to be served.

Boiled Meat. When meat is to be boiled for *eating*, put it into boiling water, by which its juices are coagulated and its richness preserved. The slower it boils, the more tender, plump, and white it will be. Meat should be removed as soon as done, or it will lose its flavor and become soggy.

Pork Steaks. The best steaks are cut off the shoulder —ham steaks being rather too dry. They should be well fried, in order to destroy the little living parasites, called Trichinæ, which sometimes infest this kind of meat. They are introduced into the stomach by eating ham, pork, or sausages made from the flesh of hogs infested by them. Thorough cooking destroys them, and those who will persist in the use of swine's flesh, can afford to have it "*done brown.*"

Baked Mutton. To bake mutton well, a person should have a brisk, sharp fire, and keep the meat well basted. It requires two hours to bake a leg of mutton, weighing eight pounds.

Bread. The health and happiness of a family depend, to a certain extent, on good, well-baked bread. At all events, our enjoyment would be greater if it were only better prepared. We make the following extract from an article printed by the State Board of Health, concerning the food of the people of Massachusetts: "As an example of good bread we would mention that which is always to be had at the restaurant of Parker's Hotel, in Boston. It is not better than is found on the continent of Europe on all the great lines of travel, and in common use by millions of people in Germany and France; but with us, it is a rare example of what bread may be. It is made from a mixture of flour, such as is generally sold in our markets, water, salt, and yeast—nothing else. The yeast is made from malt, potatoes, and hops. *The dough is kneaded from one and a half to two hours, and is then thoroughly baked.*" The truth seems to be that the kneading, which in this country takes the housewife's time and muscle, in Europe is done by the help of machinery. So here, in large villages and cities, people might furnish themselves with good bread, by means of co-operative associations, even at a less cost than at present.

BEVERAGES.

Water. The importance of water in the economy of nature is obvious to all. It is the most abundant substance of which we have knowledge. It composes four-fifths of the weight of vegetables, and three-fourths of that of animals. It is essential to the continuance of organic life. Water is universally present in all of the tissues and fluids of the body. It is not only abundant in the blood and secretions, but it is also an ingredient of the solids of the body. According to the most accurate computations, water is found to constitute from two-thirds to three-fourths of the entire weight of the human body. The following table, compiled by Robin and Verdeil, shows the proportion of water per thousand parts in different solids and fluids:

QUANTITY OF WATER IN 1,000 PARTS.

Teeth,	100	Bile,	880
Bones,	130	Milk,	887
Cartilage,	550	Pancreatic juice,	900
Muscles,	750	Urine,	936
Ligaments,	768	Lymph,	960
Brain,	789	Gastric juice,	975
Blood,	795	Perspiration,	986
Synovial fluid,	805	Saliva,	995

The Natural Drink of Man. Water constitutes the natural drink of man. No other liquid can supply its place. Its presence, however, in the body is not permanent. It is discharged from the body in different ways; by the urine, the feces, the breath, and the perspiration. In the first two, it is in a liquid form, in the others in a vaporous form. It is estimated that about forty-eight per cent. is discharged in the liquid, and fifty-two per cent. in the vaporous form; but the absolute as well as the relative amount discharged depends upon a variety of circumstances.

Water is never found perfectly pure, since it holds in solution more or less of almost every substance with which it comes in contact. Rain falling in the country remote from habitations is the purest water that nature furnishes, for it is then only charged with the natural gases of the atmosphere. In cities it absorbs organic and gaseous impurities, as it falls through the air, and flowing over roofs of houses carries with it soot and dust. Water from melted snow is purer than rain-water, since it descends in a solid form, and is therefore incapable of absorbing gases. Rain-water is not adapted to drinking purposes, unless well filtered. All water, except that which has been distilled, contains air, and it is due to this fact, that aquatic animals can live in it; for example, put a fish in distilled water and it will soon die.

Mineral Impurities. Rain-water, which has filtered through the soil and strata of the earth, dissolves the soluble materials, and carries them down to lower levels, until they finally collect in the sea. Common well, spring, and mineral waters contain from 5 to 60 grains to the gallon; sea-water contains 2,600 grains; while in some parts of the Dead Sea there are

20,000 grains to the gallon. The principal mineral impurities of well and spring water are lime, magnesia, soda, and oxide of iron, combined with carbonic and sulphuric acids, forming carbonates, sulphates, and chloride of sodium, or common salt. The most general, however, are carbonate and sulphate of lime.

Mineral waters are usually obtained from springs which contain a considerable amount of saline matter. Those waters which abound in salts of iron are called *chalybeate* or *ferruginous*. Those containing salt are termed *saline*. Those in which contain sulphur are termed *sulphurous*. Water derives the quality of hardness from the salts of lime—chiefly the sulphates—which it contains. Hard water, being an imperfect solvent, is unsuitable for washing purposes. There are two varieties of hardness, one of which is temporary, being due to the presence of carbonic acid gas in the water which holds the salts in solution and may be removed by merely boiling the water and thus expelling the gas when the salts are deposited, while the other is permanent and can only be removed by the distillation of the water. It has been ascertained that twelve pounds of the best hard soap must be added to 10,000 gallons of water of one degree of hardness before a lather will remain and, consequently, 0.12 lb. to 100 gallons of water is a measure of one degree of hardness. Since hard water is not so useful in cooking and other domestic purposes, as soft water, causing a great waste of labor and material, it is often highly desirable to soften it, which is effected by the addition of lime in what is known as *Clark's process*. One ounce of quicklime should be added to 1000 gallons of water for each degree of hardness. It should be first slacked and stirred up in a few gallons and then thoroughly mixed with the entire quantity. Then it should be allowed to remain, and will become clear in about three hours, but should not be drunk for twelve hours.

The purity of drinking water is a matter of much importance. That which contains a minute quantity of lead will give rise to all the symptoms of lead poisoning, if the use of it be sufficiently prolonged. An account is given of the poisoning of the royal family of France, many of whom suffered from this cause when in exile at Claremont. The amount of

lead was only one grain in the gallon. Care should therefore be taken to avoid drinking the water which has been contained in leaden pipes. It should always be allowed to run a few minutes before being used.

An excess of saline ingredients, which in small quantities are harmless, frequently produces marked disorders of the digestive organs. A small amount of putrescent matter habitually introduced into the system, as in the use of food, is productive of the most serious results, which can be traced to the direct action of the poison introduced. A case is recorded of a certain locality favorably situated with regard to the access of pure air, where an epidemic of fever broke out much to the astonishment of the inhabitants. Upon observation it was found that the attacks of fever were limited to those families who used water from a neighboring well. The disagreeable taste of the water which had been observed, was subsequently traced to the bursting of a sewer, which had discharged a part of its contents into the well. When the cause was removed, there was no recurrence of the evil effects.

Organic Impurities. Water is liable to organic contamination from a multitude of causes, such as drainage from dwellings, dust, insects, the decaying of vegetable and animal matter. These impurities may be mechanically suspended or held in solution in the water. Although organic impurities, which are mechanically suspended in water, are poisonous, yet they are generally associated with animalculæ, and these feed upon, and finally consume them. Good water never contains animalculæ. They are never found in freshly fallen rain-water, remote from dwellings, but abound, to a greater or less extent in cisterns, marshes, ponds, and rivers. These little workers serve a useful purpose since they consume the dead organic matter from the water, and, having fulfilled their mission, sink to the bottom and die. Water which contains organic matter is exceedingly dangerous to health, and its use should be carefully avoided.

In low lands where the current of streams is sluggish, and shallow pools abound, the water is apt to be more or less infected with decaying vegetable substances. Many people living in such localities, and wishing to obtain water with as little

trouble as possible, dig a hole in the ground, a few feet in depth, and allow the stagnant surface water to accumulate. This water is used for drinking and cooking. The result is that ague prevails in such localities.

Care should be taken that wells, from which the water is used for household purposes, are located at a distance from barnyards, privies, sinks, vaults, and stagnant pools.

Purification of Water. There are various methods of purifying water. It may be accomplished by distillation, which is the most perfect method; by filtration through sand, crushed charcoal, and other porous substances, which deprives it of suspended impurities and living organisms; by boiling, which destroys the vitality of all animal and vegetable matters, drives out the gases and precipitates carbonate of lime, which composes the crust frequently seen upon the inside of tea-kettles or boilers; by the use of chemical agents, which may be employed to destroy or precipitate the deleterious substances. Alum is often used to cleanse roily water, two or three grains in solution, being sufficient for a quart. It causes the impurities to settle to the bottom, so that the clear water can be poured or dipped out for use. One or two grains of the permanganate of potassium will render wholesome a gallon of water containing animal impurities.

How to Use Water. Very little if any water should be taken at meal time, since the salivary glands furnish an abundance of watery fluid to assist in mastication. When these glands are aided with water to "wash down" the food, their functions become feeble and impaired. The gastric juice is diluted and digestion is weakened. Large draughts of cold water ought never to be indulged in, since they cause derangement of the stomach. When the body is overheated, the use of much water is injurious. It should only be taken in small quantities. Thirst may be partially allayed, without injury, by holding cold water in the mouth for a short time and then spitting it out, taking care to swallow but very little. Travelers frequently experience inconvenience from change of water. If the means are at hand, let them purify their drinking water, if not, they should drink as little as possible. Persons who visit the banks of the Ohio, Missouri, or Mississippi rivers and

similar localities, almost invariably suffer from some form of gastric or intestinal disease. Water standing in close rooms soon becomes unfit to drink and should not be used. A drink of cold water taken on going to bed, and another on rising are conducive to health, especially in the case of persons troubled with constipation. "*Drink water*," said the celebrated Dubois to the young persons who consulted him, "*drink water, I tell you!*" Du Moulin, the great medical authority of his time, wrote, just previous to his death, "*I leave two great physicians behind me—diet and water.*"

Tea and Coffee. These substances are almost universally used as beverages, and when properly employed, serve a fourfold purpose: they quench thirst, excite an agreeable exhilaration, repress the waste of the system, and supply nourishment. In consequence of being generally used at meal times, their stimulant properties are employed to promote digestion, and consequently they are not so objectionable as they might otherwise be. The liquids introduced into the stomach at meal times should not be cold. Tea and coffee are drunk warm, while water, except in a few instances, is always drunk cold, the effects of which have already been shown. That their inordinate use may be injurious no body can deny, but this is equally true of other beverages, even pure, cold water. Scientific investigators inform us that the use of these agents as beverages, when judiciously employed, is not injurious. It has been urged that they are poisonous, but if they are, they are very slow in their operation.

When properly prepared, they are very agreeable beverages, and as man will drink more or less at meals, they are allowable; for if their use were excluded, some other beverage would be sought after, and quite likely one of an alcoholic character employed, so of two evils, if this be an evil, let us choose the least. Unlike alcoholic stimulants, they exhilarate without a depressing reaction after their influence has passed off. But one cup should be drunk at a meal, and it should be of moderate strength. The use of large quantities of drink at meals retards digestion by diluting the digestive fluids. The excessive use of large quantities of strong tea or coffee stimulates the brain and causes wakefulness, and produces irritability

of the nervous system. When they are productive of such effects, their use is injurious, and should be considerably moderated or wholly discontinued. No criterion can be given by which the amount the system will tolerate can be regulated. What one person may take with impunity, may be deleterious to an other. Individuals differ greatly in this respect. There are some who cannot tolerate them at all, either because of some peculiarity of constitution, or on account of disease. And sometimes when tea is agreeable and beneficial, coffee disagrees with the individual and *vice versa*. Persons of nervous habits whether natural or acquired, are apt to find their wakefulness and irritability increased by the use of tea, particularly if strong, while coffee will have a tranquilizing effect. Persons of a lymphatic or bilious temperament often find that coffee disagrees with them, aggravating their troubles and causing biliousness, constipation, and headache, while tea proves agreeable and beneficial. Whenever they disagree with the system, the best rule is to abandon their use. We find many persons who do not use either, and yet enjoy health, a fact which proves that they are not by any means indispensable, and, no doubt, were it customary to go without them, their absence would be but slightly missed.

Tea and coffee are adulterated to a very great extent, and persons using them will be greatly imposed upon. This is an evil we cannot remedy. If people make use of them, their experience in selecting them must be their guide; however, it is believed that the Black and Japan varieties of tea are the least apt to be adulterated, and coffee, to insure purity, should be purchased in the berry, and ground by the purchaser.

In preparing tea an infusion should be made by adding boiling water to the leaves, and permitting them to steep for a few minutes only, for a concentrated decoction, made by boiling for a long time, liberates the astringent and bitter principles and drives off the agreeable aroma which resides in a volatile oil.

Coffee should be prepared by adding cold water to the ground berry, and raising it slowly to the boiling point. Long-continued boiling liberates the astringent and bitter principles upon which its stimulant effects to a great extent depend, and

drives off with the steam the aromatic oil from which the agreeable taste is derived.

ALCOHOLIC LIQUORS.

These are divided into three classes: malted, fermented, and distilled. They all contain more or less alcohol, and their effects are, therefore, in some respects similar, and, in the words of Dr. B. W. Richardson, the great English authority on hygiene: "To say this man only drinks ale, that man only drinks wine, while a third drinks spirits, is merely to say, when the apology is unclothed, that all drink the same danger. * * Alcohol is a universal intoxicant, and in the higher orders of animals is capable of inducing the most systematic phenomena of disease. But it is reserved for man himself to exhibit these phenomena in their purest form, and to present, through them, in the morbid conditions belonging to his age, a distinct pathology. Bad as this is, it might be worse; for if the evils of alcohol were made to extend equally to animals lower than man, we should soon have, none that were tameable, none that were workable, and none that were eatable." Researches have shown that the proportion of half a drachm of alcohol to the pound weight of the body, is the quantity which usually produces intoxication, and that an increase of this amount to one drachm immediately endangers the life of the individual. The first symptom which attracts attention, when alcohol commences to take effect upon the body, is an increase in the number of the pulsations of the heart. Dr. Parkes and Count Wolowicz conducted a series of interesting experiments on young adult men. They counted the pulsations of the heart, at regular intervals, during periods when the subject drank only water; and then they counted the beats of the heart in the same individual during successive periods in which alcohol was drunk in increasing quantities.

The following details are taken from their report:

"The highest of the daily means of the pulse observed during the first or water period was 77.5; but on this day two observations were deficient. The next highest daily mean was 77 beats.

If instead of the mean of the eight days, or 73.57, we

compare the mean of this one day, viz., 77 beats per minute, with the alcoholic days, so as to be sure not to over-estimate the action of the alcohol, we find:

On the ninth day, with one fluid ounce of alcohol, the heart beat 430 times more.
On the tenth day, with two fluid ounces, 1,872 times more.
On the eleventh day, with four fluid ounces, 12,960 times more.
On the twelfth day, with six fluid ounces, 30,672 times more.
On the thirteenth day, with eight fluid ounces, 23,904 times more.
On the fourteenth day, with eight fluid ounces, 25,488 times more.

But as there was ephemeral fever on the twelfth day, it is right to make a deduction, and to estimate the number of beats in that day as midway between the twelfth and twenty-third days, or 18,432. Adopting this, the mean daily excess of beats during the alcoholic days was 14,492, or an increase of rather more than thirteen per cent.

The first day of alcohol gave an excess of one per cent., and the last of twenty-three per cent.; and the mean of these two gives almost the same percentage of excess as the mean of the six days.

Admitting that each beat of the heart was as strong during the alcoholic as in the water period (and it was really more powerful), the heart on the last two days of alcohol was doing one-fifth more work.

Adopting the lowest estimate which has been given of the daily work done by the heart, viz., as equal to 122 tons lifted one foot, the heart, during the alcoholic period, did daily work in excess equal to lifting 15.8 tons one foot, and in the last two days did extra work to the amount of twenty-four tons lifted as far.

The period of rest for the heart was shortened, though, perhaps, not to such an extent as would be inferred from the number of beats; for each contraction was sooner over. The beat on the fifth and sixth days after alcohol was left off, and apparently at the time when the last traces of alcohol were eliminated, showed, in the sphygmographic tracing, signs of unusual feebleness; and, perhaps, in consequence of this, when the brandy quickened the heart again, the tracing showed a more rapid contraction of the ventricles, but less power than

in the alcoholic period. The brandy acted, in fact, on a heart whose nutrition had not been perfectly restored."

The flush often seen on the cheeks of those who are under the influence of alcoholic liquors, and which is produced by a relaxed and distended condition of the superficial blood-vessels, is erroneously supposed by many to merely extend to the parts exposed to view. On this subject, Dr. Richardson says: "If the lungs could be seen, they, too, would be found with their vessels injected; if the brain and spinal cord could be laid open to view, they would be discovered in the same condition; if the stomach, the liver, the spleen, the kidneys, or any other vascular organs or parts could be laid open to the eye, the vascular engorgement would be equally manifest. In the lower animals I have been able to witness this extreme vascular condition in the lungs, and once I had the unusual, though unhappy opportunity of observing the same phenomenon in the brain of a man who, in a paroxysm of alcoholic delirium, cast himself under the wheels of a railway carriage. The brain, instantaneously thrown out from the skull by the crash, was before me within three minutes after the accident. It exhaled the odor of spirit most distinctly, and its membranes and minute structures were vascular in the extreme. It looked as if it had been recently injected with vermilion injection. The white matter of the cerebrum, studded with red points, could scarcely be distinguished when it was incised, it was so preternaturally red; and the pia mater, or internal vascular membrane covering the brain, resembled a delicate web of coagulated red blood, so tensely were its fine vessels engorged. This condition extended through both the larger and the smaller brain, cerebrum, and cerebellum, but was not so marked in the medulla, or commencing portion of the spinal cord, as in the other portions.

In course of time, in persons accustomed to alcohol, the vascular changes, temporary only in the novitiate, become confirmed and permanent. The bloom on the nose which characterizes the genial toper is the established sign of alcoholic action on the vascular structure.

Recently, physiological research has served to explain the reason why, under alcohol, the heart at first beats so quickly,

why the pulse rises, and why the minute blood-vessels become so strongly injected.

At one time it was imagined that alcohol acts immediately upon the heart by stimulating it to increased motion; and from this idea,—false idea, I should say,—of the primary action of alcohol, many erroneous conclusions have been drawn. We have now learned that there exist many chemical bodies which act in the same manner as alcohol, and that their effect is not to stimulate the heart, but to weaken the contractile force of the extreme and minute vessels which the heart fills with blood at each of its strokes. These bodies produce, in fact, a paralysis of the organic nervous supply of the vessels which constitute the minute vascular structures. The minute vessels when paralysed offer inefficient resistance to the force of the heart, and the pulsating organ thus liberated, like the main-spring of a clock from which the resistance has been removed, quickens in action, dilating the feebly resistant vessels, and giving evidence really not of increased, but of wasted power."

The continued use of alcoholic liquors in any considerable quantity produces irritation and inflammation of the stomach, and structural disease of the liver. Dr. Hammond has shown that alcohol has a special affinity for nervous matter, and is, therefore, found in greater quantity in the brain and spinal cord than elsewhere in the body. The gray matter of the brain undergoes, to a certain extent, a fatty degeneration, and there is a shrinking of the whole cerebrum, with impairment of the intellectual faculties, muscular tremor, and a shambling gait.

Large doses of alcohol cause a diminution of the temperature of the body, which in fevers is more marked than in the normal state.

In addition to the organic diseases enumerated above, and delirium tremens, the following diseases are frequently the result of the excessive use of alcoholic liquors: epilepsy, paralysis, insanity, diabetes, gravel, and diseases of the heart and blood-vessels.

The physiological deductions of Dr. Richardson are so much in accord with our own that we quote them in full:

"In the first place we gather from the physiological reading of the action of alcohol that the agent is narcotic. I have

compared it throughout to chloroform, and the comparison is good in all respects save one, viz.: that alcohol is less fatal than chloroform as an instant destroyer. It kills certainly in its own way, but its method of killing is slow, indirect, and by disease.

The well-proven fact that alcohol, when it is taken into the body, reduces the animal temperature, is full of the most important suggestions. The fact shows that alcohol does not in any sense act as a supplier of vital heat as is commonly supposed, and that it does not prevent the loss of heat as those imagine 'who take just a drop to keep out the cold.' It shows, on the contrary, that cold and alcohol, in their effects on the body, run closely together, an opinion confirmed by the experience of those who live or travel in cold regions of the earth. The experiences of the Arctic voyagers, of the leaders of the great Napoleonic campaigns in Russia, of the good monks of St. Bernard, all testify that death from cold is accelerated by its ally alcohol. Experiments with alcohol in extreme cold tell the like story, while the chilliness of the body which succeeds upon even a moderate excess of alcoholic indulgence leads directly to the same indication of truth.

The conclusive evidence now in our possession that alcohol taken into the animal body sets free the heart, so as to cause the excess of motion of which the record has been given above, is proof that the heart, under the frequent influence of alcohol, must undergo deleterious change of structure. It may, indeed, be admitted in proper fairness, that when the heart is passing through these rapid movements it is working under less pressure than when its movements are slow and natural; and this allowance must needs be made, or the inference would be that the organ ought to stop at once, in function, by the excess of strain put upon it. At the same time the excess of motion is injurious to the heart and to the body at large; it subjects the heart to irregularity of supply of blood, it subjects the body in all its parts to the same injurious influence; it weakens, and, as a necessary sequence, degrades both the heart and the body.

Speaking honestly, I cannot, by any argument yet presented to me, admit the alcohols by any sign that should distinguish them from other chemical substances of the paralysing narcotic class. When it is physiologically understood that what is called

stimulation or excitement is, in absolute fact, a relaxation, a partial paralysis, of one of the most important mechanisms in the animal body, the minute, resisting, compensating circulation, we grasp quickly the error in respect to the action of stimulants in which we have been educated, and obtain a clear solution of the well-known experience that all excitement, all passion, leaves, after its departure, lowness of heart, depression of mind, sadness of spirit. We learn, then, in respect to alcohol, that the temporary excitement it produces is at the expense of the animal force, and that the ideas of its being necessary to resort to it, that it may lift up the forces of the animal body into true and firm and even activity, or that it may add something useful to the living tissues, are errors as solemn as they are widely disseminated. In the scientific education of the people no fact is more deserving of special comment than this fact, that excitement is wasted force, the running down of the animal mechanism before it has served out its time of motion.

It will be said that alcohol cheers the weary, and that to take a little wine for the stomach's sake is one of the lessons that comes from the deep recesses of human nature. I am not so obstinate as to deny this argument, There are times in the life of man when the heart is oppressed, when the resistance to its motion is excessive, and when blood flows languidly to the centres of life, nervous and muscular. In these moments alcohol cheers. It lets loose the heart from its oppression; it lets flow a brisker current of blood into the failing organs; it aids nutritive changes, and altogether is of temporary service to man. So far, alcohol may be good, and if its use could be limited to this one action, this one purpose, it would be amongst the most excellent of the gifts of science to mankind. Unhappily, the border line between this use and the abuse of it, the temptation to extend beyond the use, the habit to apply the use when it is not wanted as readily as when it is wanted, overbalance, in the multitude of men, the temporary value that attaches truly to alcohol as a physiological agent. Hence alcohol becomes a dangerous instrument even in the hands of the strong and wise, a murderous instrument in the hands of the foolish and weak. Used too frequently, used too excessively, this agent, which in moderation cheers the failing body, relaxes its vessels too

extremely; spoils vital organs; makes the force of the circulation slow, imperfect, irregular; suggests the call for more stimulation; tempts to renewal of the evil, and ruins the mechanism of the healthy animal before its hour for ruin, by natural decay, should be at all near.

It is assumed by most persons that alcohol gives strength, and we hear feeble persons saying daily that they are being 'kept up by stimulants.' This means actually that they are being kept down; but the sensation they derive from the immediate action of the stimulant deceives them and leads them to attribute passing good to what, in the large majority of cases, is persistent evil. The evidence is all-perfect that alcohol gives no potential power to brain or muscle. During the first stage of action it may enable a wearied or a feeble organism to do brisk work for a short time; it may make the mind briefly brilliant; it may excite muscle to quick action, but it does nothing substantially, and fills up nothing it has destroyed, as it leads to destruction. A fire makes a brilliant sight, but leaves a desolation. It is the same with alcohol.

On the muscular force the very slightest excess of alcoholic influence is injurious. I find by measuring the power of muscle for contraction in the natural state and under alcohol, that so soon as there is a distinct indication of muscular disturbance, there is also indication of muscular failure, and if I wished by scientific experiment to spoil for work the most perfect specimen of a working animal, say a horse, without inflicting mechanical injury, I could choose no better agent for the purpose of the experiment than alcohol. But alas! the readiness with which strong, well-built men slip into general paralysis under the continued influence of this false support, attests how unnecessary it would be to subject a lower animal to the experiment. The experiment is a custom, and man is the subject.

The true place of alcohol is clear; it is an agreeable temporary shroud. The savage, with the mansions of his soul unfurnished, buries his restless energy under its shadow. The civilized man overburdened with mental labor, or with engrossing care, seeks the same shade; but it is shade, after all, in which, in exact proportion as he seeks it, the seeker retires from perfect natural

life. To search for force in alcohol is, to my mind, equivalent to the act of seeking for the sun in subterranean gloom until all is night.

It may be urged that men take alcohol, nevertheless, take it freely, and yet live; that the adult Swede drinks his average cup of twenty-five gallons of alcohol per year and remains on the face of the earth. I admit force even in this argument, for I know under the persistent use of alcohol there is a limited provision for the continuance of life. In the confirmed alcoholic the alcohol is, in a certain sense, so disposed of that it fits, as it were, the body for a long season, nay, becomes part of it; and yet it is silently doing its fatal work. The organs of the body may be slowly brought into a state of adaptation to receive it and to dispose of it. But in that very preparation they are themselves made to undergo physical changes tending to the destruction of their function, to perversion of their structure, and to all those varied modifications of organic parts which the dissector of the human subject learns to recognize,—almost without concern, and certainly without anything more than commonplace curiosity,—as the devastations incident to alcoholic indulgence."

The statistics collected from the census of the United States for 1860, and given by Dr. De Marmon, in the *New York Medical Journal* for December, 1870, must carry conviction to all minds of the correctness of the foregoing deductions:

"For the last ten years the use of spirits has, 1. Imposed on the nation a direct expense of 600,000,000 dollars. 2. Has caused an indirect expense of 600,000,000 dollars. 3. Has destroyed 300,000 lives. 4. Has sent 100,000 children to the poorhouses. 5. Has committed at least 150,000 people into prisons and workhouses. 6. Has made at least 1,000 insane. 7. Has determined at least 2,000 suicides. 8. Has caused the loss by fire or violence, of at least 10,000,000 dollars' worth of property. 9. Has made 200,000 widows and 1,000 orphans."

If these were the statistics twenty-four years ago, with our greatly increased population, what must they be to-day? We will let the reader draw his own conclusions.

Malted Liquors. Under this head are included all those liquors into the composition of which malt enters, such as

beer, ale, and porter. The proportion of alcohol in these liquors varies greatly. In beer, it is from two to five per cent.; in Edinburgh ale, it amounts to six per cent.; in porter, it is usually from four to six per cent. In addition to alcohol and water, the malted liquors contain from five to fourteen per cent. of the extract of malt, and from 0.16 to 0.60 per cent. of carbonic acid. They possess, according to Pereira, three properties: they quench thirst; they stimulate, cheer, and, if taken in sufficient quantity, intoxicate; and they nourish or strengthen. The first of these qualities is due to the water entering into their composition; the second, to the alcohol; the third is attributed to the nutritive principles of the malt.

Objections to their use as Beverages. These articles are either pure or adulterated. In their pure state the objection to their use for this purpose lies in the fact that they contain alcohol. This, as we have seen, is a poisonous substance, which the human system in a state of health does not need. Its use, when the body is in a normal condition, is uncalled for, and can only be deleterious. Beverages containing this poison are more or less deleterious to healthy persons, according to the amount of it which they contain.

These liquors are frequently adulterated, and this increases their injurious effects. The ingenuity of man has been taxed to increase their intoxicating properties; to heighten the color and flavor, to create pungency and thirst; and to revive old beer. To increase the intoxicating power, tobacco or the seeds of the Cocculus indicus are added; to heighten the color and flavor, burnt sugar, liquorice, or treacle, quassia, or strychnine, coriander, and caraway seeds are employed; to increase the pungency, cayenne pepper or common salt is added; to revive old beer, or ale, it is shaken up with green vitriol or sulphate of iron, or with alum and common salt.

Fermented Liquors. These are cider and wine. Cider contains alcohol to the amount of from five to ten per cent., saccharine matter, lactic acid, and other substances. New cider may be drunk in large quantities without inducing intoxication, but old cider is quite as intoxicating as ale or porter.

The composition of wine is very complex, the peculiar qualities which characterize the different varieties cannot be

ascertained by chemical analysis. Wine is a solution of alcohol in water, combined with various constituents of the grape. The amount of alcohol in wines ranges from six to forty per cent. As beverages, these are open to the same objections as those manufactured from malt. As a medicine, wine is a useful remedy. Concerning its use in this capacity, Prof. Liebig says: "Wine is a restorative. As a means of refreshment when the powers of life are exhausted—as a means of compensation where a misappropriation occurs in nutrition, and as a means of protection against transient organic disturbances, it is surpassed by no product of nature or art." That an article is useful in medicine, however, is no reason why it should be used as a beverage by those in health. It is rather an argument against such a practice. For it is generally true that the drugs used to restore the diseased system to health, are pernicious or poisonous to it when in a normal condition.

Distilled Liquors. These are whisky, brandy, and the kindred productions of the still. Whisky is a solution of alcohol in water, mixed with various other principles which impart to it peculiar physical properties. The amount of alcohol which it contains varies from forty-eight to fifty-six per cent. Old whiskey is more highly prized than the more recent product of the still, from the fact that when kept for some years certain volatile oils are generated which impart to it a mellowness of flavor.

Brandy is a solution of alcohol in water, together with various other substances. It contains from fifty to fifty-six per cent. of alcohol. Pure brandy is distilled from wine, 1,000 gallons of wine yielding from 100 to 150 gallons of brandy, but a very large proportion of the brandy is made with little or no wine. It is made artificially from high wines by the addition of oil of Cognac, to give it flavor, burnt sugar to give it color, and logwood or catechu, to impart astringency and roughness of taste. The best brandy is obtained by distillation from the best quality of white wines, from the districts of Cognac and Armagnac. in Fran

THE CLOTHING.

There is no physical agent which exerts a more constant or more powerful influence upon health and life, than the

atmosphere. The climate in these latitudes is exceedingly variable, ranging all the way from 110° Fahr. in summer to 40° below zero in the winter season. The body of every individual should be so protected from cold, that it can maintain a mean temperature of 98° Fahr.

When the body is warm there is a free and equal circulation of the blood throughout all the structures. When the surface is subjected to cold, the numerous capillaries and minute vessels carrying the blood, contract and diminish in size, increasing the amount of this fluid in the internal organs, thus causing congestion. The blood must go somewhere, and if driven from the surface, it retreats to the cavities within. Hence this repletion of the vital organs causes pain from pressure and fullness of the distended blood-vessels, and the organic functions are embarrassed. Besides, cold upon the surface shuts up the pores of the skin, which are among the most active and important excretory ducts of the system. It is evident, then, that we require suitable clothing, not only for comfort, but to maintain the temperature and functions essential to health and life.

The chief object to be attained by dress is the maintenance of a uniform temperature of the body. To attain this end, it is necessary that the exhalations of the system, which are continually escaping through the pores of the skin, should be absorbed or conducted away from the person. These exudations occur in the form of sensible or insensible perspiration, and the clothing, to be healthy, should be so porous as to allow them freely to escape into the air.

A substance should also be chosen which is known to be a poor conductor of heat. That generated by the system will thus be retained where it is needed, instead of being dispersed into the atmosphere.

We might add that the better the material for accomplishing these purposes, the less will be needed to be worn; for we do not wish to wear or carry about with us any more material than is necessary. It so happens that all of these qualities are found combined in *flannel*. The value of this article worn next to the skin cannot be over-rated, for while it affords protection from cold during the winter months, it is equally beneficial during the heat of summer, because it imbibes the perspiration,

and being very porous, allows it to escape. The skin always feels soft, smooth, and pliable, when it is worn; but, when cotton takes its place, it soon becomes dry and harsh. Its natural adaptability to these purposes, shows that it is equally a comfort and a source of health. Where the skin is very delicate, flannel sometimes causes irritation. In such cases a thin fabric of linen, cotton, or silk, should be worn next the skin, with flannel immediately over it. Where there is a uniform and extreme degree of heat, cotton and linen are very conducive to comfort. But they are unsuitable in a climate or season liable to sudden fluctuations in temperature.

The value of furs, where people are exposed to extreme cold, cannot be overestimated. They are much warmer than wool, and are chiefly used as wraps on going outdoors. They are too cumbrous and expensive for ordinary wear in this latitude, but in places near the poles they constitute the chief clothing of the inhabitants.

The quantity of clothing worn is another important item. The least that is necessary to keep the body well protected and evenly tempered when employed is the rule of health. Some people, instead of wearing flannels next to the body, put on other material in greater abundance, thus confining the perspiration to the skin and making the body chilly. The amount of clothing is then increased, until they are so heavily clad that they cannot exercise. It is far better to wear one thickness of flannel next to the skin, and then cotton, or woolen, for outside garments, and be able to exercise, thus allowing the blood to circulate and to assist in the warming process.

One great fault in dress consists in neglecting to properly clothe the upper extremities. Some people do not reflect upon the necessity, while others are too proud to be directed by plain common sense. In the winter season, the feet should be covered with woolen stockings. The next matter of importance, is to get a thick, broad-soled shoe, so large that it will not prevent the free circulation of the blood. Then for walking, and especially for riding, when the earth is wet and cold, or when there is snow on the ground, wear a flannel-lined rubber or "Arctic" over-shoe. *Be sure and keep the feet comfortable and warm at all times.*

Our next advice is to keep the legs warm. We were called not long ago, to see a young lady who had contracted a severe cold. She had been to an entertainment where the apartments were nicely warmed, and from thence had walked home late in the evening. We inquired into the circumstances of the case, and ascertained that she wore flannel about her chest, and that she also wore rubbers over her shoes, but the other portions of the lower extremities were protected by cotton coverings. In short, her legs were not kept warm, and she took cold by going out from warm rooms into a chilly atmosphere. A good pair of woolen leggings might have saved her much suffering. The results of insufficient protection of the lower extremities are colds, coughs, consumption, headaches, pain in the side, menstrual derangements, uterine congestion and disorders, besides disablement for the ordinary and necessary duties of life. All these may be prevented by clothing the legs suitably, and wearing comfortable flannels.

Young people can bear a low temperature of the body better than old people, because they possess greater power of endurance. But that is no reason for unnecessary exposure.

The amount of clothing should be regulated according to the heat-generating power of the individual, and also according to the susceptibility to cold. No two persons are exactly alike in these respects. But it is never proper for young people to reject the counsels of experience, or treat lightly the advice to protect themselves thoroughly against the cold. Many a parent's heart has ached as he has followed the mortal remains of a darling child to the grave, knowing that if good advice had been heeded, in all human probability, the life would have been prolonged.

The most deleterious mechanical errors in clothing are those which affect the chest and body. Tight lacing still plays too important a part in dress. It interferes with the free and healthy movements of the body, and effects a pressure which is alike injurious to the organs of respiration, circulation, and digestion. The great muscle of respiration, the diaphragm, is impeded in its motion, and is, therefore, unable to act freely. The large blood-vessels are compressed, and when the pressure is excessive the heart and lungs are also subjected to restraint

and thrown out of their proper positions. From the compression of the liver and stomach, the functions of digestion are impeded, a distaste for solid food, flatulency and pain after eating are the unmistakable proofs of the injury which is being inflicted.

The evil effects of such pressure are not confined to actual periods of time during which this pressure is applied. They continue after it has been removed and when the chest and trunk of the body have thus been subjected to long-continued pressure they become permanently deformed. These deformities necessarily entail great suffering in child-bearing.

The evil effects of mechanical pressure on other parts of the body are not uncommon. The leg is sometimes so indented by a tight garter that the returning flow of blood through the veins is prevented, and a varicose condition of these vessels is produced.

Irregular and excessive pressure on the foot by imperfectly fitting shoes or boots produce deformities of the feet and cause much suffering. The high heels which are so common on the shoes of women and children inflict more than a local injury. Every time the body comes down upon the raised heel with its full weight a slight shock or vibration is communicated throughout the entire extent of the spinal column, and the nervous mechanism is thereby injured. Furthermore, displacements of the pelvic organs frequently result from these unnatural and absurd articles of dress. Women of fashion are subjected to much annoyance from wearing long, flowing skirts suspended from their waists to trail uselessly on the floor and gather dust. It is impossible for the wearers of these ridiculous garments to exercise their limbs properly or to breathe naturally. Indigestion, palpitation, shortness of breath, and physical degeneracy are the inevitable consequences of their folly. The skirts should always be suspended from the shoulders and not from the hips. It is especially important that the clothing of children should not fit too tightly.

It is very important that the clothing should be kept clean. That which is worn for a long time becomes saturated with the excretions and exhalations of the body, which prevent free transpiration from the pores of the skin, and thereby induce mental inactivity and depression of the physical powers. Unclean clothing may be the means of conveying disease. Scarlet

fever has been conveyed frequently by the clothing of a nurse into a healthy family. All of the contagious diseases have been communicated by clothing contaminated in laundries.

Certain dyes which are largely used in the coloring of wearing apparel are poisonous, and give rise to local disease of the skin, accompanied in some instances, with constitutional symptoms. The principal poisonous dyes are the red and yellow aniline. A case of poisoning from wearing stockings colored with aniline dyes, in which there were severe constitutional symptoms, came under our observation at the Invalids' Hotel recently.

CHAPTER III.

PHYSICAL EXERCISE. MENTAL CULTURE. SLEEP. CLEANLINESS.

A well-developed physical organization is essential to perfect health. Among the Greeks, beauty ranked next to virtue, and an eminent author has said that "the nearer we approach Divinity, the more we reflect His eternal beauty." The perfect expression of thought requires the physical accompaniments of language, gesture, etc. The human form is pliable, and, with proper culture, can be made replete with expression, grace and beauty. The cultivation of the intellectual powers has been allowed to supplant physical training to a great extent. The results are abnormally developed brains, delicate forms, sensitive nerves and shortened lives. That the physical and mental systems should be collaterally developed, is a fact generally overlooked by educators. The fullness of a great intellect is generally impaired when united with a weak and frail body. We have sought perfection in animals and plants. To the former we have given all the degree of strength and grace requisite to their peculiar duties; to the latter we have imparted all the delicate tints and shadings that fancy could picture. We have studied the laws of their existence, until we are familiar with every phase of their production; yet it remains for man to learn those laws of his own being, by a knowledge of which he may promote and preserve the beauty of the human form, and thus render it, indeed, an image of its

Maker. When the body is tenanted by a cultivated intellect, the result is a unity which is unique, commanding the respect of humanity, and insuring a successful life to the possessor. Students are as a rule pale and emaciated. Mental application is generally the cause assigned when, in reality, it is the result of insufficient exercise, impure air, and dietetic errors. An intelligent journalist has remarked that "many of our ministers weigh too little in the pulpit, because they weigh too little on the scales." The Greek Gymnasium and Olympian Games were the sure foundations of that education from which arose that subtle philosophy, poetry, and military skill which have won the admiration of nineteen centuries. The laurel crown of the Olympian victor was far more precious to the Grecian youth than the gilded prize is to our modern genius. A popular lecturer has truly remarked, that "we make brilliant mathematicians and miserable dyspeptics; fine linguists with bronchial throats; good writers with narrow chests and pale complexions; smart scholars, but not that union, which the ancients prized, of a sound mind in a sound body. The brain becomes the chief working muscle of the system. We refine and re-refine the intellectual powers down to a diamond point and brilliancy, as if they were the sole or reigning faculties, and we had not a physical nature binding us to earth, and a spiritual nature binding us to the great heavens and the greater God who inhabits them. Thus the university becomes a sort of splendid hospital with this difference, that the hospital *cures*, while the university *creates* disease. Most of them are indicted at the bar of public opinion for taking the finest young brain and blood of the country, and, after working upon them for four years, returning them to their homes skilled indeed to perform certain linguistic and mathematical dexterities, but very much below par in health and endurance, and, in short, seriously damaged and physically demoralized." We read with reverence the sublime teachings of Aristotle and Plato; we mark the grandeur of Homer and the delicate beauties of Virgil; but we do not seek to reproduce in our modern institutions the gymnasium, which was the real foundation of their genius. Colleges which are now entering upon their career, should make ample provision for those exercises

which develop the *physical man.* This lack of bodily training is common with all classes, and its effects are written in indelible characters on the faces and forms of old and young. Constrained positions in sitting restrict the movements of the diaphragm and ribs and often cause diseases of the spine, or unnatural curvatures, which prove disastrous to health and happiness. The head should be held erect and the shoulders thrown backward, so that at each inspiration the lungs may be fully expanded.

Physical exercise should never be too violent or too prolonged. Severe physical labor, and athletic sports, if indulged in to an extreme degree, produce undue excitability of the heart, and sometimes cause it to become enlarged. There is a form of heart disease induced by undue exertion which may be called a wearing out or wasting away of that organ. It is common in those persons whose occupations expose them to excessive physical labor for too many hours together. This feebleness of heart is felt but little by vigorous persons under forty years of age, but in those who have passed this age it becomes manifest. However, when any person so affected is attacked by any acute disease, the heart is more liable to fail, and thus cause a fatal termination.

Aneurism of the aorta or the large arteries branching off from it, which is a dilatation of the walls of these vessels, caused by the rupture of one or two of their coats, is generally induced by excessive physical strain, such as lifting heavy weights, or carrying weights up long flights of stairs, violent horse-back exercise, or hurrying to catch a train or street car.

An Erect Carriage is not only essential to health, but adds grace and beauty to every movement. Although man was made to stand erect, thus indicating his superiority over all other animals, yet custom has done much to curve that magnificent central column, upon the summit of which rests the "grand dome of thought." Many young persons unconsciously acquire the habit of throwing the shoulders forward. The spinal column is weakened by this unnatural posture, its vertebræ become so sensitive and distorted that they cannot easily support the weight of the body or sustain its equilibrium. It is generally believed that persons of sedentary habits are

more liable to become round-shouldered than any other class of individuals. Observation shows, on the contrary, that the manual laborer, or even the idler, often acquires this stooping posture. It can be remedied, not by artificial braces, but by habitually throwing the shoulders backwards. Deformed trunks and crooked spines, although sometimes the effects of disease are more frequently the results of carelessness. Jacques has remarked that "one's standing among his fellow-men is quite as important a matter in a *physiological*, as in a *social* sense." *Walking* is one of the most efficient means of physical culture, as it calls all the muscles into action and produces the amount of tension requisite for their tonicity. Long walks or protracted physical exercise of any kind should never be undertaken immediately after meals. The first essential to a healthful walk is a pleasurable object. Beautiful scenery, rambles in meadows rich with fragrant grasses, or along the flowery banks of water-courses, affords an agreeable stimulus, which sends the blood through the vital channels with unwonted force, and imparts to the cheeks the ruddy glow of health. Our poets acknowledge the silent influence of nature. Wordsworth has expressed this thought in his own sublime way:

Fig. 104.

"The floating clouds their state shall lend
To her: for her the willow bend;
Nor shall she fail to see,
E'en in the motions of the storm
Grace that shall mould the maiden's form
By silent sympathy.
The stars of midnight shall be dear
To her: and she shall lean her ear
In many a secret place,
Where rivulets dance their wayward round,
And beauty, born of murmuring sound,
Shall pass into her face."

Base Ball, Cricket, Boxing, and Fencing, are all manly exercises when practiced solely with a view to their hygienic advantages, and as such have our approval.

The Art of Swimming was regarded by the Greeks as an important accomplishment. As a hygienic agency, it occupies a high place in physical culture. The varied move-

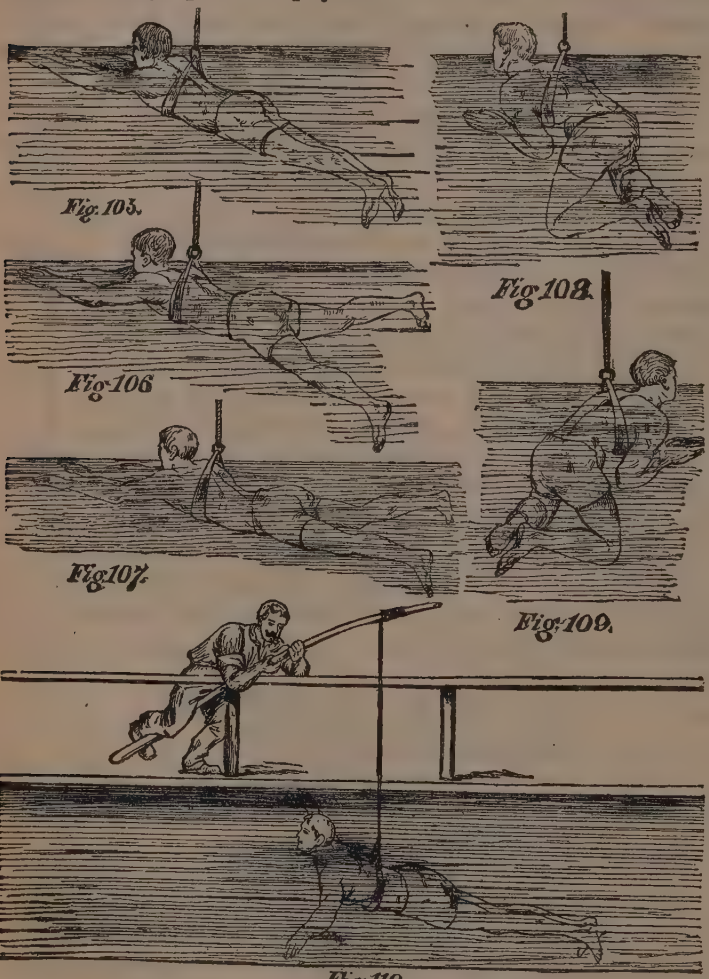


Fig. 105.

Fig. 106.

Fig. 107.

Fig. 108.

Fig. 109.

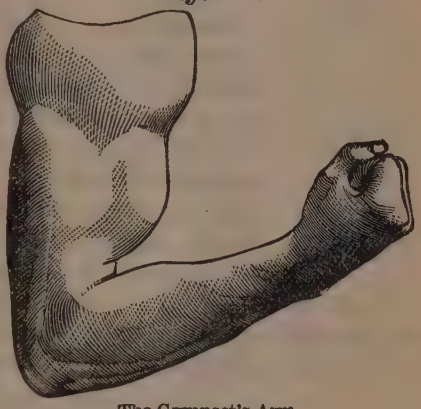
Fig. 110.

ments impart strength and elasticity to the muscles. It is as charming a recreation for women and girls as for men and boys. Furthermore, it is not only a means of physical culture, but is often essential for self-preservation. Figs. 105 to 108

represent the successive positions assumed in swimming. Figs. 109 and 110 represent exercises in the water and a safe and easy method of learning to swim.

The Exercises of the Gymnasium are especially productive of health and longevity. The most important of these are balancing, leaping, climbing, wrestling, and throwing, all of which are especially adapted to the development of the muscles. In conclusion, we offer the following suggestions, viz: all gymnastic exercises should be practiced in the morning, and in the open air; extremes should be avoided; and it should be always borne in mind, that their chief object is to combine, in a proper proportion, mental and physical development. In every relation of life we should cultivate all those faculties which pertain to our physical, moral, and mental natures, subdue our passions, and nature will bestow upon us her richest rewards of health, beauty, and happiness.

Fig. 111.



The Gymnast's Arm.

Skating and Rowing are exercises which develop the muscles of the arms and legs. The former should not be too prolonged, and the clothing should always be warm and appropriate. College regattas are rapidly becoming more popular in this country, notwithstanding many severe criticisms from the press. As an exercise for the health and development of our students, rowing should be universally recommended, but over-exertion should be carefully avoided in this as in other athletic sports. It expands the lungs and strengthens the muscles of the arms and chest. Every college should be located near some body of water, and a boat-house erected and provided with the necessary equipments. Exercise is just as essential to the student as a library or a laboratory.

Riding on Horseback is a fine exercise for both sexes. It promotes digestion, improves the circulation, and expands and develops the respiratory organs. The pure, fresh air, pleasant scenery, and pleasurable excitement, impart renewed vigor to the equestrian. In the Southern States it is a universal accomplishment, and children are taught to ride as well as to walk.

Fig. 112.

Dancing. Notwithstanding the fact that dancing has been perverted to the basest purposes, has been made the fruitful source of dissipation, and has often laid the foundation for disease, it is yet capable of being made to minister to health and happiness. As a means of physical culture, it favors the development of the muscular system, and promotes health and cheerfulness. When practiced for this purpose, Jacques terms it "the best of all in-door exercises, as it brings to bear upon the physical system a great number of energizing and harmonious influences."

MENTAL CULTURE.

The brain, like all other organs of the body, requires alternate exercise and repose; and, in physical endurance, it is subject to general physiological laws. When exercised with moderation it acquires strength, vigor, and an accelerated activity. Excessive mental exertion is liable to result in softening of the brain, and various nervous diseases, sometimes culminating in insanity, and in many instances proving fatal to life. The mere votaries of pleasure who avoid all effort of the mind, fall into the opposite error. In all cases of intellectual activity, the exertions should be directed to some subject interesting to the student. In this manner duty will become a pleasure, which in turn will re-invigorate the mental functions.

When the mind is confined to one subject for any considerable length of time together, it becomes fatigued, and requires relaxation, recreation, rest. This may be obtained by directing the attention to some other subject, either study or amusement, the latter of which is preferable. The amusement, however,

may be of an intellectual or physical character, or both combined, and will, if properly conducted, restore vigor to both mind and body.

Prominent among physical phenomena is the mutual relation between the brain and the organs of nutrition. Mental exertion should be avoided for at least one hour after a hearty meal, and all mental labor which requires concentration of thought ought to be accomplished in the earlier portion of the day, when the brain is refreshed and repaired by the night's repose. Mental, like physical endurance, is modified by age, health, and development. A person accustomed to concentration of thought, can endure a longer mental strain than one inured to manual labor only. One of the most injurious customs, is the cultivation of the intellect at the expense of the physical powers.

Mental Culture During Childhood. One of the greatest mistakes which people make in the management of their children, is to overtask their mental faculties. Although it is exceedingly gratifying to see children acquire knowledge, and manifest an understanding far beyond their years, this gratification is often purchased too dearly, for precocious children are apt to die young. The tissue of the brain and nerves of children is very delicate; they have not yet acquired the powers of endurance which older persons possess. The greater portion of the nutriment assimilated, is required for growth and organic development, and they can ill afford its expenditure for mental manifestations. They receive impressions easier and learn much more readily than in after life, but it is at the expense of the physical organization. Their mental faculties continue to be developed by the expenditure of brain nutriment, while physical growth and the powers of endurance are arrested. It is much better to give physical development the precedence in order that the mental organism may be well supported and its operations carried into effect; for it must be apparent to all that an ordinary intellect in a healthy body, is capable of accomplishing infinitely more than a strong mind in a *weak* body. Regularity should be observed in exercising the mental functions. For this reason a fixed order in the pursuit of any literary occupation is very essential. The pursuit of the most abstruse studies will thus become habitual and comparatively

easy; a consequence of systematic application. Mental labor should always cease when the train of thought becomes confused, and there is the slightest sensation of depression. All distracting influences should be absent from the mind, in order to facilitate intense study, for the intellect cannot attend perfectly to two subjects at the same time. Painful sensations always have a tendency to paralyze mental exertion. Great care should be taken that the head is not subjected to injury of any kind, as it is almost invariably accompanied by some nervous derangement. Exposure to extreme heat should be carefully avoided. An attack of sun-stroke although it may not be immediately fatal, may occasion tumors in the brain, or some organic disease.

SLEEP.

For all animated beings sleep is an imperious necessity, as indispensable as food. The welfare of man requires alternate periods of activity and repose. It is a well-established physiological fact, that during the wakeful hours the vital energies are being expended, the powers of life diminished, and, if wakefulness is continued beyond a certain limit, the system becomes enfeebled and death is the result. During sleep there is a temporary cessation of vital expenditures, and a recuperation of all the forces. Under the influence of sleep "the blood is refreshed, the brain recruited, physical sufferings are extinguished, mental troubles are removed, the organism is relieved, and hope returns to the heart."

The severest punishment which can be inflicted upon a person, is to entirely deprive him of sleep. In China, a few years since, three criminals were sentenced to be kept awake until they should die. To do this it was necessary to keep a guard over them. The sentinels were armed with sharp-pointed instruments, with which to goad the victims and thus prevent them from sleeping. Life soon became a burden, and, although they were well fed during the time, death occurred sooner than it would have done had starvation been the punishment.

Sleeping Rooms. The sleeping room should be large and well ventilated, and the air kept moderately cool. The necessity for a fire may be determined by the health of the

occupant. Besides maintaining a proper temperature in the room, a little fire is useful, especially if in a grate, for the purpose of securing good ventilation. The windows should not be so arranged as to allow a draught upon the body during the night, but yet so adjusted that the inmate may obtain plenty of fresh air.

The Bed should not be too soft, but rather hard. Feathers give off animal emanations of an injurious character, and impart a feeling of lassitude and debility to those sleeping on them. No more coverings should be used than are actually necessary for the comfort of the individual. Cotton sheets are warmer than linen, and answer equally as well.

Sleeping Alone. Certain effluvia are thrown off from our persons, and when two individuals sleep together each inhales from the other more or less of these emanations. There is little doubt that *consumption*, and many other diseases, not usually considered contagious, are sometimes communicated in this manner. When it is not practicable for individuals to occupy separate beds, the persons sleeping together should be of about the same age, and in good health. Numerous cases have occurred in which healthy, robust children have gradually declined and died within a few months, from the evil effects of sleeping with old people. Again, those in feeble health have been greatly benefited, and even restored, by sleeping with others who were young and healthy.

Time for Sleep. *Night* is the proper time for sleep. When day is substituted for night, the sleep obtained does not fully restore the exhausted energies of the system. Nature does not allow her laws to be broken with impunity.

Children require more sleep than old persons. They are sometimes stupefied with "soothing syrups," and preparations of opium, in order to get them temporarily out of the way. Such narcotics are very injurious and dangerous. We have known a young child to be killed by a *single drop* of laudanum. This practice, therefore, cannot be too emphatically condemned.

How to Put Children to Bed. The following characteristic lines are from the pen of Fanny Fern, and contain such good advice that we cannot refrain from quoting them:

"Not with a reproof for any of the day's sins of omission or commission. Take any other time than bed-time for that. If you ever heard a little creature sighing or sobbing in its sleep, you could never do this. Seal their closing eyelids with a kiss and a blessing. The time will come, all too soon, when they will lay their heads upon their pillows lacking both. Let them at least have this sweet memory of happy childhood, of which no future sorrow or trouble can rob them. Give them their rosy youth. Nor need this involve wild license. The judicious parent will not so mistake my meaning. If you ever met the man or the woman, whose eyes have suddenly filled when a little child has crept trustingly to its mother's breast, you may have seen one in whose childhood's home 'dignity' and 'severity' stood where love and pity should have been. Too much indulgence has ruined thousands of children; too much love not one."

Position in Sleep. The proper position in sleep is upon the right side. The orifice leading from the stomach to the bowels being on this side, this position favors the passage of the contents into the duodenum. Lying on the back is injurious, since by so doing the spine becomes heated, especially if the person sleeps on feathers, the circulation is obstructed and local congestions are encouraged. The face should never be covered during sleep, since it necessitates the breathing of the same air over again, together with the emanations from the body.

The Amount of Sleep. The amount of sleep required varies with the age, habits, condition, and peculiarities of the individual. No definite rule can be given for the guidance of all. The average amount required, however, is eight or nine hours out of the twenty-four. Some persons need more than this, while others can do with less. Since both body and mind are recuperated by sleep, the more they are exhausted the more sleep is required. A person employed at mental labor should have more than one who is merely expending muscular strength. Six hours of unbroken sleep do more to refresh and revive than ten when frequently interrupted. If it is too prolonged it weakens and stupefies both body and mind. If an insufficient amount is taken the flagging energies are not

restored. Persons who eat much or use stimulants generally require more than others. In sleep regularity is desirable. If a person goes to bed at a certain hour for several nights in succession, it will soon become a habit. The same holds true with regard to rising. If children are put to sleep at a stated hour for several days in succession, it will soon become a habit with them.

CLEANLINESS.

"Cleanliness is next to godliness," and is essential to the health and vigor of the system. Its importance cannot be overestimated, and it should be inculcated early on the minds of the young. "Even from the body's purity, the mind receives a secret sympathetic aid."

When we consider the functions of the skin, with its myriads of minute glands, innumerable little tubes, employed in removing the worn-out, useless matter from the system, we cannot fail to appreciate the utility of frequent bathing with soap and water. Unless these excretions are removed, the glands become obstructed, their functions are arrested, and unpleasant odors arise. Many persons think because they daily bathe the face, neck, and hands, dress the hair becomingly and remove the dirt from their clothing that the height of cleanliness has been reached. From a hygienic point of view, bathing the *entire* body is of much greater importance.

Notwithstanding the necessity for cleanliness of the body, we occasionally meet with persons who, although particular about their personal appearance, permit their bodies to be for weeks and even months without a bath. Such neglect should never exceed one week. Plenty of sunlight and at least one or two general baths every week are essential to perfect health. Cleanliness is necessary to health, beauty, attractiveness, and a cheerful disposition.

CHAPTER IV.

HYGIENE OF THE REPRODUCTIVE ORGANS.

The structure and functions of organized bodies are subject to continual alteration. The changes of nutrition and growth, which are constantly taking place in the tissues render them at the same time the seat of repair and waste, of renovation and decomposition, of life and death. The plant germinates and blossoms, then withers and decays; animal life, in like manner, comes into being, grows to maturity, fades, and dies. It is, therefore, essential to the perpetuation of life, that new organisms be provided to take the place of those which are passing out of existence. There is no physiological process which presents more interesting phenomena than that of reproduction, which includes the formation, as well as the development of new beings.

Since self-preservation is Nature's first law, the desire for food is a most powerful instinct in all living animals. Not inferior to this law is that for the perpetuation of the race; and for this purpose, throughout the animal and vegetable kingdoms, we find the Biblical statement literally illustrated: "Male and female created He them."

Health is the gauge by which the prosperity of a people may be measured. Were we to trace the history of nations,—their rise and fall,— we would find that much of the barbarism and crime, degradation and vice, as well as their decline and final extinction, was due to licentiousness and sexual excesses. Since there is an intimate relation between mind and body, when the body is enfeebled the mind becomes enervated. Morbid

conditions of the body prevent the highest mental development, and, on the other hand, when the mind is debilitated, general depravity, physical as well as mental, is the result. The highest development of the body results from the equal and harmonious cultivation of all the mental powers. The perfect development and health of the physical organs is therefore essential to the happiness of mankind. But, before health can be insured the nature and general functions of the physical system must be understood. This being done, the question naturally arises: *How can health be best maintained and longevity secured?*

Influence of Food. We have previously noticed the effects which food, exercise, and other hygienic agencies, have upon digestion, circulation, and respiration; and we find that they exert a not less potent influence upon the health of the generative organs. Excessive stimulation excites the sexual passions. For this reason, children should not be immoderately indulged in highly seasoned foods. Those persons who have great muscular vigor are endowed with violent passions, and unless restrained by moral considerations. are very likely to be overcome by their animal propensities.

Alcoholic stimulants have a debasing influence upon the whole system, and especially upon the sexual organs; they excite the animal and debase the moral nature; they exhaust the vitality, and, after the excitement, which they temporarily induce, has passed away, the body is left in a prostrated condition.

Physical Labor Modifies the Passions. Labor consumes the surplus vitality which a person may possess, and no better protective can be found against the gratification of the passions, unless it be high moral training, than daily toil extended to such a degree as to produce fatigue. Labor determines the blood to the surface and to other parts of the body, and prevents excitement and congestion of the sexual centers. If, by education or association, the passions of children be excited, they will be increased. If, on the contrary, they be taught to avoid these social or solitary evils, they will be abated. Let them be educated to work and the intellectual faculties will assert their sway, the moral powers will be strengthened, and the body better developed, for purity of mind is the result of the perfect development of man.

Influences of Climate. Individuals possess distinguishing peculiarities characteristic of the nation to which they belong. Climate exerts a powerful influence upon mankind. In tropical regions the inhabitants are enervated, effeminate, and sensual. The rich live in luxury and ease, vice is unrestrained and license unbridled. When the animal propensities are allowed to predominate, the mental faculties are kept in subjection. Hence races that inhabit those latitudes rarely produce scholars or philosophers. A warm climate hastens the development of the reproductive organs. Men and women become mature at a much earlier age in those regions, than in countries where the temperature is lower. In like manner there is a tendency to premature enfeeblement, for the earlier the system matures, the sooner it deteriorates.

Man is a Social Being. History demonstrates that when man is deprived of the society of woman, he becomes reckless, vicious, depraved, and even barbarous in his habits, thus illustrating the maxim: "It is not good for man to be alone." Social intercourse promotes mental and physical development. The development of the individual implies the unfolding of every power, both physical and mental. Nothing so regulates and restrains passion as a healthy condition of the organs through which it finds expression. And every organ of the body is powerful in proportion to its soundness. The propensities play a prominent part in the education of the child. When properly disciplined and held in subordination to the higher faculties, they constitute an important factor in the economy of man. Boys are more liable to be morbidly excited when secluded from the society of girls, and vice versa. Again, when the sexes are accustomed to associate, the passions are not apt to be aroused, because of the natural antagonistic constitutional elements. The influence of the one refines, and ennobles the other. Let children be taught to understand their natures, and knowing them, they will learn self-government. "As man rises in education and moral feeling he proportionately rises in the power of self-restraint; and consequently as he becomes deprived of this wholesome law of discipline he sinks into self-indulgence and the brutality of savage life.

The passions may be aroused by the language, appearance,

or dress of the opposite sex. A word spoken without any impure intent is often construed in a very different sense by one whose passions color the thought, and is made to convey an impression entirely unlike that which was intended by the speaker. Also, the dress may be of such a character as to excite the sexual passion. The manner in which the apparel is worn is often so conspicuous as to become bawdy, thereby appealing to the libidinous desires, rather than awakening an admiration for the mental qualities.

Obscene Literature. Literature is a powerful agent either for good or evil. If we would improve the morals, *choice* literature must be selected, whether it be that which realizes the ideal, or idealizes the real. Obscene literature, or books written for the express purpose of exciting or intensifying sexual desires in the young, goads to an illicit gratification of the passions, and ruins the moral and physical nature.

It not unfrequently happens that a child is born with a vigorous, mental organism which promises a brilliant future, but manhood finds him incompetent, debilitated, and totally incapacitated for mental or manual labor. This may be the result of youthful indiscretion, ignorantly committed, but not unfrequently it is the effect of a pernicious literature which inflames the imagination, tramples upon reason, and describes to the youth a realm where the passions are the ruling deities.

Many persons are born into the world with disordered organizations for which they are not themselves responsible. Such individuals are entitled to the sympathy of humanity. Dyspepsia, scrofula, consumption, and a thousand ills to which mankind is heir, are inherited from parents, the results of ill-assorted marriages. Intoxicated parents often produce offspring utterly demented. Children of healthy parents, with good constitutions, are usually healthy and intelligent. There are marked varieties of character in children of the same parents. One manifests great precocity, another is below the average in mental attainments; one is amiable, another irritable in disposition; indeed, there are often as great differences between children of the same, as of different families. This is due to the physical and mental conditions of the parents, more especially the mother, not only at the time of the impregnation

but also during the period intervening between conception and the birth of the offspring. The ancients regarded courage as the principal virtue. By us, purity is so estimated. Moral purity is an essential requisite to the growth and perfection of the character.

Self-Abuse. Untold miseries arise from the pollution of the body. Self-pollution, or onanism, is one of the most prolific sources of evil, since it leads both to the degradation of body and mind. It is practiced more or less by members of both sexes, and the habit once established, is overcome with the greatest difficulty. It is the source of numerous diseases which derange the functional activity of the organs involved, and eventually impair the constitution. This vicious habit is often practiced by those who are ignorant of its dangerous results. Statistics show that insanity is frequently caused by masturbation.

Immoderate indulgence in any practice is deleterious to the individual. Emphatically true is this with regard to sexual excesses. Not unfrequently does the marriage rite "cover a multitude of sins." The abuse of the conjugal relation produces the most serious results to both parties, and is a prolific source of some of the gravest forms of disease. Prostatorrhea, spermatorrhea, impotency, hypochondria, and general debility of the generative organs, arise from sexual excesses.

The health of the reproductive organs can only be maintained by leading a *temperate* life. The food should be nourishing but not stimulating. Lascivious thoughts should be banished from the mind, and a taste cultivated for that literature which is elevating in its nature, and the associations should be refining and ennobling. Let these conditions and the rules of hygiene be observed, and virtue will reward her subjects with a fine physique and a noble character.

Woman, from the nature of her organization, has less strength and endurance than man. Much, however, of the suffering and misery which she experiences arises from insufficient attentention to the sexual organs. The menstrual function is generally established between the ages of twelve and fourteen. For want of proper instruction, many a girl through ignorance has caused derangements which have enfeebled her womanhood

or terminated her life. At this critical period the mother cannot be too considerate of her daughter's health. Preceding the first appearance of the menses, girls usually feel an aching in the back, pains in the limbs, chilliness, and general languor. The establishment of this function relieves these symptoms. Every precaution should be taken during the period to keep the feet dry and warm, to freely maintain a general circulation of the blood, to avoid exertion, and to refrain from standing or walking too much. Menstrual derangements should never be neglected, for they predispose to affections of the brain, liver, heart, and stomach, induce consumption and frequently end in death. Young women should, therefore, properly protect themselves, and avoid extremes of heat and cold.

CHAPTER V.

PRACTICAL SUMMARY OF HYGIENE.

1. The first step which should be taken for the prevention of disease, is to make provision for the health of the unborn child. Greater care should be exercised with women who are in a way to become mothers. Those who are surrounded by all the luxuries which health can bestow, indulge too much in rich food, and take too little exercise; while the poor get too little nourishment, and work too hard and too long. A woman in this condition should avoid overexertion, and all scenes which excite the passions or powerful emotions. She should take moderate exercise in the open air; eat moderately of wholesome food, and of meat not oftener than twice a day; take tea or coffee in limited quantities, and avoid the use of all alcoholic liquors; she should go to bed early and take not less than nine hours sleep; her clothing should be loose, light in weight, and warm. She should take every precaution against exposure to contagious or infectious diseases.

2. There is no better method for preventing the spread of contagious diseases than perfect isolation of the infected, and thorough disinfection of all articles of clothing or bedding which have been in contact with the infected. Many persons erroneously believe that every child must necessarily have the measles, and other contagious diseases, and they, therefore, take no precautions against the exposure of their children. The liability to infection diminishes as age advances, and those individuals are, as a rule, the strongest and best developed who

have never suffered from any of the contagious diseases. Although vaccination is the great safeguard against-pox, yet it should never prevent the immediate isolation of those who are suffering from this disease.

3. To avoid the injurious effects of impure air, the following rules, should be carefully observed. The admission of air which contains anything that emits an unpleasant odor into closed rooms should be avoided. The temperature of every apartment should be kept as near 70° Fahr. as possible, and the air should not be overcharged with watery vapor. Provisions should be made for the free admission into and escape of air from the room at all times. When an apartment is not in use, it should be thoroughly ventilated by opening the windows. Those who are compelled to remain in an atmosphere filled with dust, should wear a cotton-wool respirator.

4. To insure a healthy condition of the body, the diet of man ought to be varied, and all excesses should be avoided. The total amount of solid food taken in the twenty-four hours should not exceed two and a half pounds, and not more than one-third of this quantity should consist of animal food. Many persons do not require more than one pound and a half of mixed food. To avoid parasitic diseases, meat should not be eaten rare, especially pork. The amount of drink taken should not be more than three pints in the twenty-four hours. The excessive use of tea and coffee should be avoided. Pickles, boiled cabbage, and other indigestible articles should never be eaten.

5. To avoid the evil effects of alcoholic liquors, perfect abstinence is the only safe course to pursue. Although one may use spirituous liquors in moderation for a long period of time and, possibly, remain healthy, yet such an indulgence is unnecessary and exceedingly dangerous. A person who abstains entirely from their use is safe from their pernicious influence; a person who indulges ever so moderately is in danger; a person who relies on such stimulants for support in the hour of need is lost.

6. While the use of tobacco is less pernicious than alcohol in its effects, yet it exerts a profound disturbing influence upon the nervous system, and gives rise to various functional and organic diseases. This is the verdict of those who

have given the subject the most study, and who have had the best opportunities for extensive observation. Suddenly fatal results have followed excesses in the use of tobacco. Therefore, the habit should be avoided, or if already acquired, it should be immediately abandoned.

7. The clothing should be light and porous, adapted in warmth to the season. It is especially important that persons in advanced life should be well protected against vicissitudes of heat and cold. Exposure is the cause of almost all those inflammatory diseases which occur during winter, and take off the feeble and the aged. The under-garments should be kept scrupulously clean by frequent changes. Corsets or bands which impede the flow of blood, compress the organs of the chest or abdomen, or restrict the movements of the body, are very injurious, and should not be worn. Articles of dress which are colored with irritating dye-stuffs, should be carefully avoided.

8. It matters not how varied a person's vocation may be, change, recreation, and rest are required. It is an error to suppose that more work can be done by omitting these. No single occupation which requires special mental or physical work, should be followed for more than eight hours out of the twenty-four. The physical organism is not constructed to run its full cycle of years and labor under a heavier burden than this. Physical and mental exercise is conducive to health and longevity, if not carried too far. It is erroneous to suppose that excessive physical exertion promotes health. Man was never intended to be a running or a jumping machine. In mental work, variety should be introduced. New work calls into play fresh portions of the brain, and secures repose for those parts which have become exhausted. Idleness should be avoided by all. Men should never retire from business as long as they enjoy a fair degree of health. Idleness and inactivity are opposed to nature.

9. The average length of time which a person ought to sleep is eight hours out of the twenty-four, and, as a rule, those who take this amount enjoy the best health. The most favorable time for sleep is between the hours of 10 P. M. and 6 A. M. All excitement, the use of stimulants, and excessive fatigue

tend to prevent sleep. Sleeping rooms should be well ventilated, and the air maintained at a equable temperature of as near 60° Fahr. as possible. An inability to sleep at the proper time, or a regular inclination to sleep at other than the natural hours for it, is a certain indication of errors of habit, or of nervous derangement.

10. Prominent among all other measures for the maintenance of Health, is personal cleanliness. Activity in the functions of the skin is essential to perfect health, and this can only be secured by thoroughly bathing the entire body. Strictly, a person should bathe once every twenty-four or forty-eight hours. The body should be habituated to contact with cold water at all seasons of the year, so that warm water may not become a necessity. The simplest and most convenient bath, is the ordinary sponge-bath. An occasional hot-air, or Turkish bath, exerts a very beneficial influence. It cleans out the pores of the skin and increases its activity.

11. The emotions and the passions exert a powerful influence over the physical organism. It is important, therefore, that they be held under restraint by the reasoning faculties. This rule applies equally to joy, fear, and grief; to avarice, anger, and hatred; and, above all, to the sexual passion. They are a prolific source of disease of the nervous system, and have caused the dethronement of some of the most gifted intellects.

PART III.

RATIONAL MEDICINE.

CHAPTER I.

THE PROGRESS OF MEDICINE.

During the last half century a great change has taken place in the treatment of disease. Medicine has advanced with rapid strides, from the narrow limits of mere empiricism, to the broader realm of rationalism, until to day it comprehends all the elements of an art and a science. Scientific researches and investigations have added many valuable truths to the general fund of medical learning, but much more has been effected by observation and empirical discovery. It is of little or no interest to the invalid to know whether the prescribed remedy is organic or inorganic, simple, compound, or complex. In his anxiety and distress of body, he seeks solely for relief, without regard to the character of the remedial agents employed. But this indifference on the part of the patient does not obviate the necessity for a thorough, scientific education on the part of the practitioner. Notwithstanding all the laws enacted to raise the standard of medicine, and thus protect the public from quackery, there yet exists a disposition among many to cling to all that savors of the miraculous, or supernatural. To insure the future advancement of the healing art, physicians must instruct mankind in Physiology, Hygiene, and Medicine. When the people understand the nature of diseases, their causes, methods of prevention and cure, they will not be easily deceived; and practitioners will be obliged to qualify themselves better for their labors. The practice of medicine is every year becoming

more successful. New and improved methods of treating disease are being discovered and developed, and the conscientious physician will avail himself of *all* the means, by a knowledge of which he may benefit his fellow-men. The medical profession is divided into three principal schools, or sects.

THE ALLOPATHIC, REGULAR, OR OLD SCHOOL OF MEDICINE.

This is the oldest existing branch of the profession. To it is due the credit of collecting and arranging the facts and discoveries which form the foundation of the healing art. It has done, and is doing, much to place the science of medicine on a firm basis. To the text-books of this school, every student who would qualify himself for medical practice must resort, to gain that knowledge upon which depends his future success. The early practice of this branch of the profession was necessarily crude and empirical. Conservative in its character, it has ever been slow to recognize new theories and methods of practice, and has failed to adopt them until they have been incontrovertibly established. This conservatism was manifested in the opposition to Harvey when he propounded the theory of the circulation of the blood, and to Jenner when he discovered and demonstrated the beneficial effects of vaccination. Thus has it ever defended its established opinions against innovation; yet out of this very conservatism has grown much real good, for, although it has wasted no time or energy in the investigation of theories, yet it has accepted them when established. In this manner it has added to its fund of knowledge only those truths which are of real and intrinsic value.

The history of medicine may be divided into three eras. In the first, the practice of medicine was merely empiricism. Ignorant priests or astrologers administered drugs, concerning the properties of which they had no knowledge, to appease the wrath of mythological deities. In the second or heroic era, the lancet, mercury, antimony, opium, and the blister were employed indiscriminately as the *sine qua non* of medical practice. The present, with all its scientific knowledge of the human structure and functions, and its vast resources for remedying disease, may be aptly termed the liberal era of medicine. The allopathic

differs from the other schools, mainly in the application of remedies. In its ranks are found men, indefatigable in their labors, delving deep into the mysteries of nature, and who, for their scientific attainments and humane principles are justly considered ornaments to society and to their profession.

HOMŒOPATHY.

Although this school is of comparatively recent origin, yet it has gained a powerful hold upon the public favor, and numbers among its patrons very many intelligent citizens. This fact alone would seem to indicate that it possesses some merit. The homœopathic differs from the allopathic school principally in its "*law of cure*," which, according to Hahnemann, its founder, was the doctrine of "*similia similibus curantur*," or "like cures like." Its method of treatment is founded upon the assumption that if a drug be given to a healthy person, symptoms will occur which, if transpiring in disease, would be mitigated by the same drug. While it may be exceedingly difficult for a member of another school to accept this doctrine and comprehend the method founded upon it, yet no one can deny that it contains some elements of truth.

Imbued with the spirit of progress, many of its most intelligent and successful practitioners have resorted to the use of appreciable quantities of medicine. This school associates hydropathy with its practice, and usually inculcates rigid dietetic and hygienic regulations. Many homœopathic remedies are thoroughly triturated with sugar of milk, which renders them more palatable and efficacious. Whether we attribute their cures to the infinitesimal doses which many homœopathists employ, to their "law of cure," to good nursing, or to the power of nature, it is nevertheless true that their practice is measurably successful. No doubt the homœopathic practice has modified that of the other schools, by proving that diseases may be alleviated by smaller quantities of medicine than were formerly employed.

THE ECLECTIC SCHOOL.

This school, founded by Wooster Beach, instituted the most strenuous opposition to the employment of mercury, antimony, the blister, and the lancet. The members of this new school

proclaimed that the action of heroic and noxious medicines was opposed to the operation of the vital forces, and proposed to substitute in their place safer and more efficacious agents, derived exclusively from the vegetable kingdom. The eclectics have investigated the properties of indigenous plants and have discovered many valuable remedies, which a kind and bounteous nature has so generously supplied for the healing of her children. Marked success attended the employment of these agents. In 1852, a committee on "Indigenous Medical Botany," appointed by the "American Medical Association," acknowledged that the practitioners of the regular school had been extremely ignorant of the medical virtues of plants, even of those of their own neighborhoods. The employment of podophyllin and leptandrin as substitutes for mercurials has been so successful that they are now used by practitioners of all schools. Although claiming to have been founded upon liberal principles, it may be questioned whether its adherents have not been quite as exclusive and dogmatic as those whom they have opposed. It cannot be denied, however, that the eclectics have added many important remedies to the Materia Medica. Their writings are important and useful contributions to the physician's library.

THE LIBERAL AND INDEPENDENT PHYSICIAN.

After this brief review of the various medical sects, the reader may be curious to learn to what sect the physicians of the Invalids' Hotel and Surgical Institute belong. Among them are to be found graduates from the colleges of all the different schools. They are not restricted by the tenets of any one sect, but claim the right and privilege, nay, consider it a duty, to select from all, such remedies as careful investigation, scientific research, and an extensive experience, have proved valuable. They resort to any and every agent which has been proved efficacious, whether it be vegetable or mineral.

And here arises a distinction between *sanative* remedial agents and those which are *noxious*. Many practitioners deplore the use of poisons, and advocate innocuous medicines which produce only curative results. We agree with them in one proposition, namely, that improper medicines not only poison,

but frequently utterly destroy the health and body of the patient. Every physician should keep steadily in view the final effects, as well as present relief, and never employ any agent without regard to its ulterior consequences. However, an agent which is noxious in *health*, may prove a valuable remedy in *disease*. When morbid changes have taken place in the blood and tissues, when a general diseased condition of the bodily organs has occurred, then an agent, which is poisonous in health, may prove curative. For instance it is admitted that alcohol is a poison; that it prevents healthful assimilation, solidifies pepsin, begets a morbid appetite; that it produces intoxication, and that its habitual use destroys the body. It is, therefore, neither a hygienic nor a sanative agent, but strictly a noxious one; yet, its very distinct antiseptic properties render it valuable for remedial purposes, since these qualities promptly arrest that fatal form of decomposition of the animal fluids which is occasioned by snake-venom, which produces its deadly effects in the same manner as a drop of yeast ferments the largest mash. Alcohol checks this poisonous and deadly process and neutralizes its effects. Thus, alcohol, although a noxious agent, possesses a special curative influence in a morbid state of the human system; but its general remedial effects do not entitle it to the rank of a hygienic agent. We believe that medicine is undergoing a gradual change from the darkness of the past, with its ignorance, superstition, and barbarism, to the light of a glorious future. At each successive step in the path of progress, medicine approaches one degree nearer the realm of an exact science. The common object of the practitioners of all medical schools is the alleviation of human suffering. The only difference between the schools is in the remedies employed, the size of dose administered, and the results attained. These are insufficient grounds for bitter sectarianism. We are all fellow laborers in the same field. Before us lies a boundless expanse for exploration. There are new conditions of disease to be learned, new remedies to be discovered, and new properties of old ones to be examined.

We do not deplore the fact, that there are different schools in medicine, for this science has not reached perfection, and they tend to stimulate investigation. The remarks of Herbert

Spencer on the "Multiplication of Schemes of Juvenile Culture," may be pertinently applied to the different schools in medicine with increased force. He says: "It is clear that dissent in education results in facilitating inquiry by the division in labor. Were we in possession of the true method, divergence from it would, of course, be prejudicial; but the true method having to be found, the efforts of numerous independent seekers carrying out their researches in different directions, constitute a better agency for finding it than any that could be devised. Each of them struck by some new thought which probably contains more or less of basis in facts—each of them zealous on behalf of his plan, fertile in expedients to test its correctness, and untiring in its efforts to make known its success—each of them merciless in its criticism on the rest—there cannot fail, by composition of forces, to be a gradual approximation of all towards the right course. Whatever portion of the normal method any one of them has discovered, must, by the constant exhibition of its results, force itself into adoption; whatever wrong practices he has joined with it must, by repeated experiment and failure, be exploded. And by this aggregation of truths and elimination of errors, there must eventually be developed a correct and complete body of doctrine. Of the three phases through which human opinion passes—the unanimity of the ignorant, the disagreement of the inquiring, and the unanimity of the wise—it is manifest that the second is the parent of the third."

We believe the time is coming when those maladies which are now considered fatal will be readily cured—when disease will be disarmed of its terrors. To be successful, a physician must be independent, free from all bigotry, having no narrow prejudice against his fellow-men, liberal, accepting new truths from whatever source they come, free from the restrictions of societies, and an earnest laborer in the interests of the Great Physician.

CHAPTER II.

REMEDIES FOR DISEASE.

It will be our aim, throughout this book, to prescribe such remedies as are within the easy reach of all, and which may be safely employed. Many of those of the vegetable class are indigenous to this country, and may be procured in their strength and purity, at the proper season, by those residing in the localities where they grow, while all others advised may be obtained at any good drug-store. We shall endeavor to recommend such as can be procured and prepared with the least trouble and expense to the patient, when it is believed that they will be equally as efficacious as more expensive medicines.

PROPRIETARY MEDICINES.

Having the invalid's best interests in view, it will often happen that we cannot prescribe better or cheaper remedies nor those which are more effective or easily obtained, than some of our standard preparations, which are sold by all druggists. We are aware that there is a popular, and not altogether unfounded prejudice against "patent medicines," owing to the small amount of merit which many of them possess. The term "Patent Medicine" does not apply to Dr. Pierce's remedies, as no patent has ever been asked or obtained for them, nor have they been urged upon the public as "cure alls." They are simply favorite prescriptions, which, in a very extensive practice, have proved their superior remedial virtues in the cure of the diseases for which they are recommended.

From the time of Hippocrates down to the present day,

physicians have classified diseases according to their causes, character or symptoms. It has been proved that diseases apparently different may often be cured by the same remedy. The reason for this singular fact is obvious. A single remedy may possess a variety of properties. Quinine, among other properties has a tonic which suggests its use in cases of debility; an antiperiodic, which renders it efficient in ague; and an antifebrile property, which renders it efficacious in cases of fever. The result produced varies with the quantity given, the time of its administration, and the circumstances under which it is employed. Every practicing physician has his favorite remedies, which he oftenest recommends or uses, because he has the greatest confidence in their virtues. The patient does not know their composition. Even prescriptions are usually written in a language unintelligible to anybody but the druggist. As much secrecy is employed as in the preparation of proprietary medicines. Does the fact that an article is prepared by a process known only to the manufacturer render that article less valuable? How many physicians know the elementary composition of the remedies which they employ, some of which never have been analyzed? Few practitioners know how morphine, quinine, podophyllin, leptandrin, pepsin, or chloroform, are made, or how nauseous drugs are transformed into palatable elixirs; yet they do not hesitate to employ them. Is it not inconsistent to use a prescription the composition of which is unknown to us, and discard another preparation simply because it is accompanied by a printed statement of its properties with directions for its use?

Various journals in this country, have at different times published absurd formulæ purporting to be receipts for the preparation of "Dr. Sage's Catarrh Remedy" and Dr. Pierce's standard medicines, which, in most instances, have not contained a single ingredient which enters into the composition of these celebrated remedies.

In the manufacture of any pharmaceutical preparation, two conditions are essential to its perfection, viz: purity and strength of the materials, and appropriate machinery. The first is insured, by purchasing the materials in large quantities, whereby the exercise of greater care in selecting the ingredients can be

afforded; and the second can only be accomplished where the business is extensive enough to warrant a large outlay of capital in procuring proper chemical apparatus. These facts apply with especial force to the manufacture of our medicines, their quality having been vastly improved since the demand has become so great as to require their manufacture in very large quantities. Some persons, while admitting that our medicines are good pharmaceutical compounds, object to them on the ground that they are too often used with insufficient judgment. We propose to obviate that difficulty by enlightening the people as to the structure and functions of their bodies, the causes, character, and symptoms of disease, and by indicating the proper and judicious employment of our medicines, together with such auxiliary treatment as may be necessary. Such is one of the designs of this volume.

PROPERTIES OF MEDICINE.

It is generally conceded that the action of a remedy upon the human system depends upon properties peculiar to it. The effects produced suggest the naming of these qualities, which have been scientifically classified. We shall name the diseases from their characteristic symptoms, and then, without commenting upon all the properties of a remedy, recommend its employment. Our reference to the qualities of any remedy, when we do make a particular allusion to them, we shall endeavor to make as easy and familiar as possible.

Dose. All persons are not equally susceptible to the influence of medicines. As a rule, women require smaller doses than men, and children less than women. Infants are very susceptible to the effects of anodynes, even out of all relative proportion to other kinds of medicines. The circumstances and conditions of the system increase or diminish the effects of medicine, so that an aperient at one time may act as a cathartic at another, and a dose that will simply prove to be an anodyne when the patient is suffering great pain will act as a narcotic when he is not. This explains why the same dose often affects individuals differently. The following table is given to indicate the size of the dose, and is graduated to the age:

YEARS.	DOSE.	YEARS.	DOSE.
21	full.	4	1-6
15	2-3	2	1-8
12	1-2	1	1-12
8	1-3	½	1-20 to 1-30
6	1-4		

The doses mentioned in the following pages are those for adults, except when otherwise specified.

The Preparation of Medicines. The remedies which we shall mention for domestic use are mostly vegetable. Infusions and decoctions of these will often be advised on account of the fact that they are more available than the tinctures, fluid extracts, and concentrated principles, which we prefer, and almost invariably employ in our practice. Most of these medical extracts are prepared in our chemical laboratory under the supervision of a careful and skilled pharmaceutist. No one, we presume, would expect, with only a dish of hot water and a stew-kettle, to equal in pharmaceutical skill the learned chemist with all his ingeniously devised and costly apparatus for extracting the active, remedial principles from medicinal plants. Yet infusions and decoctions are not without their value; and from the inferior quality of many of the fluid extracts and other pharmaceutical preparations in the market, it may be questioned whether the former are not frequently as valuable as the latter. So unreliable are a majority of the fluid extracts, tinctures, and concentrated, active principles found in the drug-stores, that we long since found it necessary to have prepared in our laboratory, most of those which we employ. To the reliability of the preparations which we secure in this way we largely attribute our great success in the treatment of disease. Tinctures and fluid extracts are often prepared from old and worthless roots, barks, and herbs which have wholly lost their medicinal properties. Yet they are sold at just as high prices as those which are good. We manufacture our tinctures, fluid extracts, and concentrated, active principles from roots, barks, and herbs which are fresh, and selected with the greatest care. Many of the crude roots, barks, and herbs found in the market are inactive because they have been gathered at the wrong season. These, together with those that have been kept on hand so long as to have lost all medicinal value, are often sold

in large quantities, and at reduced prices, to be manufactured into fluid extracts and tinctures. Of course, the preparations made from such materials are worthless. Whenever the dose of fluid extracts, tinctures, and concentrated, active principles, is mentioned in this chapter, the quantity advised is based upon our experience in the use of these preparations, as they are made in our laboratory, and the smallest quantity which will produce the desired effect is always given. When using most of the preparations found in the drug-stores, the doses have to be somewhat increased, and even then they will not always produce the desired effect, for reasons already given.

The List of Medicines which we shall introduce in this chapter will be quite limited, as we cannot hope, by making it extensive, that the non-professional reader would be able to prescribe with good judgment any other than the simpler remedies. Hence, we prefer, since we have no space in this volume to waste, to mention only a few of the most common remedies under each head or classification.

Tinctures. Very uniform and reliable tinctures may be made of most indigenous plants, by procuring the part to be employed, at the proper season, while it is green and fresh, bruising it well, and covering it with good strong whisky, or with alcohol diluted with one part of water to three of alcohol, corking tightly, and letting it stand about fourteen days, when the tincture may be filtered or poured off from the drugs, and will be ready for use. Prepared in this imperfect manner, they will be found to be much more reliable than any of the fluid extracts found in the drug-stores. An excess of the crude drug should be used in preparing the tincture to insure a perfect saturation of the alcohol with its active principles.

Homœopathic Tinctures. The tinctures prepared by several of the German and French pharmaceutists, and called by them "Mother Tinctures," to distinguish them from the dilutions made therefrom, we have found to be very reliable, so much superior to any similar preparations made in this country that we purchase from them all we use of Pulsatilla, Staphisagria, Drosera and several others. They are prepared with great care from the green, crude material, and although high in price, when compared with other tinctures, yet the greater

certainty of action which we secure in our prescriptions by their employment more than repays for the expense and trouble in procuring them, for of what account is expense to the true physician when *life* may depend upon the virtue of the agent he employs?

Infusions. These are generally made by adding one-half ounce of the crude medicine to a pint of water, which should be closely covered, kept warm, and used as directed. Flowers, leaves, barks, and roots become impaired by age, and it is necessary to increase or diminish the dose according to the strength of the article employed.

Decoctions. The difference between a decoction and an infusion is, that the plant or substance is boiled in the production of the former, in order to obtain its soluble, medicinal qualities. Cover the vessel containing the ingredients, thus confining the vapor, and shutting out the atmospheric air which sometimes impairs the active principles and their medicinal qualities. The ordinary mode of preparing a decoction is to use one ounce of the plant, root, bark, flower, or substance to a pint of water. The dose internally varies from a tablespoonful to one ounce.

ALTERATIVES.

Alteratives are a class of medicines which in some inexplicable manner, gradually change certain morbid actions of the system, and establish a healthy condition instead. They stimulate the vital processes to renewed activity, and arouse the excretory organs to remove matter which ought to be eliminated. They facilitate the action of the secretory glands, tone them up, and give a new impulse to their operations, so that they can more expeditiously rid the system of worn-out and effete materials. In this way they alter, correct, and purify the fluids, tone up the organs, and re-establish their healthy functions. Alteratives may possess tonic, laxative, stimulant, or diuretic properties all combined in one agent. Or we may combine several alteratives, each having only one of these properties in one remedy. We propose to enumerate only a few alteratives, and give the doses which are usually prescribed; the list which we employ in our practice is very extensive, but it cannot be made available for domestic use.

Mandrake (*Podophyllum Peltatum*), also called May-apple, is a most valuable alterative. The root is the part used. *Dose*—Of decoction, one to two teaspoonfuls; of tincture, six to eight drops; of fluid extract, three to five drops; of its active principle, Podophyllin, one-twelfth to one-eighth of a grain.

Poke (*Phytolacca Decandra*), also called Skoke, Garget, or Pigeon-berry, is a valuable alterative. The root is the part used. *Dose*—Of decoction, one to three teaspoonfuls; of fluid extract, three to ten drops; of concentrated principle, Phytolaccin, one-fourth to one grain.

Yellow Dock (*Rumex Crispus*). The part used is the root. *Dose*—Of the infusion, one to three fluid ounces three times daily; of fluid extract, ten to thirty drops; of tincture, twenty to forty drops.

Tag Alder (*Alnus Rubra*). This is otherwise known as the Smooth, Common, or Swamp Alder. The bark is the part

Fig. 113.

Tag-Alder.

used. It is excellent in scrofula, syphilis, cutaneous and all blood diseases. *Dose*—Of decoction, one or two tablespoonfuls

from three to five times daily; of tincture, one or two teaspoonfuls; of fluid extract, one-half to one teaspoonful; of concentrated principle, Alnuin, one-half to one grain.

Black Cohosh (*Macrotys or Cimicifuga Racemosa*). The part used is the root. Its other common names are Black

Fig. 114.

Black Cohosh.

Snake-root, or Squaw-root. Black Cohosh is an alterative, stimulant, nervine, diaphoretic, tonic, and a cerebro-spinal stimulant. It is a useful remedy. *Dose*—Of decoction, one-fourth to

one ounce; of tincture, ten to fifteen drops; of fluid extract, five to ten drops; of the concentrated principle, Macrotin, one-eighth to one-half grain.

Blood-root (*Sanguinaria Canadensis*), is also known as Red Puccoon. The part used is the root. In minute doses

Fig. 115.

Blood-root.

Blood-root is a valuable alterative, acting upon the biliary secretion and improving the circulation and digestion. *Dose*—Of powdered root, one-fourth to one-half grain; of tincture, one

to two drops; of the fluid extract, one-half to one drop. When given in a fluid form it should be well diluted.

Burdock (*Arctium Lappa*). The root is the part used. Burdock is a valuable alterative in diseases of the blood. *Dose*—Of tincture, from one teaspoonful to a tablespoonful twenty minutes before meals; of fluid extract, one to two teaspoonfuls.

Blue Flag (*Iris Versicolor*). The part used is the root. *Dose*—Of the tincture, five to ten drops; of fluid extract, three to ten drops; of concentrated principle, Iridin, one-half to two grains.

Sweet Elder (*Sambucus Canadensis*). Sweet Elder-flowers are a valuable alterative, diuretic, mucous and glandular stimulant, excellent in eruptive, cutaneous, and scrofulous diseases of children. An infusion, fluid extract, or syrup, may be used in connection with the "Golden Medical Discovery." Both will be found valuable for cleansing the blood and stimulating the functions to a healthy condition. *Dose*—Of the infusion of the flowers, from one-half to one ounce, if freely taken, will operate as a laxative; of fluid extract, one-fourth to one-half teaspoonful. The flowers, or inner bark of the root, simmered in fresh butter, make a good ointment for most cutaneous affections.

Iodine. This agent, in the several forms of Iodide of Potassium, Iodide of Ammonium, Iodide of Iron, and Iodide of Lime, is largely employed by physicians, and often with most happy results. But for domestic use we cannot advise its employment, as it is liable to injure the invalid, when its action is carried too far, which is apt to be the case, when not administered under the supervision of a competent physician.

Mercury. The various preparations of mercury have a profound, alterative effect upon the system. When taken for some time, they change the quality and composition of the blood; cause a diminution in the number of red blood-corpuscles, and an increase in the various effete materials. In the vast majority of cases we prefer the vegetable alteratives, but in rare instances they exert a beneficial influence, in small doses. None of the preparations of mercury should be taken internally without the advice of a skillful physician, therefore, we shall not give their doses.

THE COMPOUNDING OF ALTERATIVES.

The efficacy of this class of remedies can be greatly increased by properly combining several of them into one compound. This requires a knowledge of Pharmaceutical Chemistry; *i. e.*, the preparation of compounds founded on the chemical relation and action of their several remedial, active principles. Many practitioners make combinations of remedies which neutralize each other's influence, instead of extending their efficacy and curative power.

Dr. Pierce's "Golden Medical Discovery," or Alterative Extract. This compound is a highly nutritive and tonic preparation, combining the remedial properties of the best vegetable alteratives at present known to the medical profession. In perfecting this alterative compound, and likewise other standard preparations of medicine, we have made an outlay of many thousand dollars for chemical apparatus, and special machinery by the aid of which these remedies have been brought to their present perfection. Great pains are taken to obtain the materials at the right season of the year, properly cured so that none of their remedial qualities may be impaired. We, therefore, can with great confidence recommend Dr. Pierce's "Golden Medical Discovery" as one of the best preparations of the alterative class. Like all others of this type, its action is insensible, producing gradual changes, arousing the excretory glands to remove morbid materials, and at the same time toning the secretory organs. The manufacture of this compound is under the special supervision of a competent chemist and pharmaceutist, and it is now put up in bottles wrapped with full directions for its use. We can confidently recommend this compound whenever an alterative is required to cleanse the blood, tone the system, increase its nutrition, and establish a healthy condition. For these reasons we shall often advise its employment.

Dr. Pierce's Pleasant Purgative Pellets. These pellets combine the pure, concentrated, active principles of several vegetable alteratives, and the result is, that within the small compass of a few grains he has most happily blended and chemically condensed these properties, so that their action upon

the animal economy is sanative and universal. They awaken the latent powers, quicken the tardy functions, check morbid deposits, dissolve hard concretions, remove obstructions, promote depuration, harmonize and restore the functions, equalize the circulation, and encourage the action of the nervous system. They stimulate the glands, increase the peristaltic movement of the intestines, tone the nutritive processes, while aiding in evacuating the bowels. All this they accomplish without corroding the tissues or vitiating the fluids. Their assistance is genial, helping the system to expel worn out materials, which would become noxious if retained. Having expended their remedial powers upon the various functions of the body, they are themselves expelled along with other waste matter, leaving behind them no traces of irritation. This cannot be said of mercurials, or of other harsh, mineral alteratives. These Pellets may be safely employed when the system is feeble, frail, and delicate, by giving them in less quantities. *Dose*—As an alterative, only one or two Pellets should be taken daily.

ALKALIES.

Alkalies. These constitute an important list of remedial agents, their administration being frequently indicated. The employment of other medicines frequently should be preceded by the administration of an agent of this class, to neutralize excessive acidity in the stomach and bowels. Unless this be done, many medicines will fail to produce their specific effects.

Sulphite of Soda (*Sodæ Sulphis*). This salt, as well as the Hyposulphite of Soda, is not only generally preferable for administration on account of its unirritating character and the smallness of the dose required, but also because it is a valuable antiseptic agent. The *Sulphite* should not be confounded with the *Sulphate* of Soda (Glauber's Salt). *Dose*—This is from three to ten grains.

Saleratus (*Potassæ Bicarbonas*). This is a favorite domestic antacid. *Dose*—Five to fifteen grains is the amount.

ACIDS.

As alkalies are important and often indicated as remedial agents, so their re-agents, acids, are also frequently

necessary to meet opposite conditions of the fluids of the system.

Hydrochloric or Muriatic Acid. This agent may be administered in doses of from five to ten drops, largely diluted in water or gruel.

Aromatic Sulphuric Acid, or Elixir of Vitriol, is the most agreeable form of Sulphuric Acid for administration, and may be given in doses of from five to fifteen drops, largely diluted with water.

In taking acids, they should be sucked through a straw, and not allowed to come in contact with the teeth, as otherwise the latter organs will be injured by their effects; or should the acid come in contact with the teeth, the mouth should be immediately rinsed with a solution of saleratus or soda, to neutralize the acid.

ANODYNES.

Anodynes are those medicines which relieve pain by blunting the sensibility of the nerves, or of the brain, so that it does not appreciate the morbid sensation. An anodyne may be a stimulant in one dose, and a narcotic in a larger one. The properties of different anodyne agents vary, consequently they produce unlike effects. The size of the dose required, differs according to circumstances and condition. An adult, suffering acute pain, requires a much larger dose to produce an anodyne effect than one who is a chronic sufferer. An individual accustomed to the use of anodynes, requires a much larger dose to procure relief than one who is not. Doses may be repeated, until their characteristic effects are produced, after an interval of thirty or forty minutes. When the stomach is very sensitive and will not tolerate their internal administration, one-sixth of a grain of Morphia can be inserted beneath the skin, by means of a hypodermic syringe. Relief is more quickly experienced, and the anodyne effect is much more lasting than when taken into the stomach.

Opium (*Papaver Somniferum*). Opium is a stimulant, anodyne, or narcotic, according to the size of the dose administered. *Dose*—Of the dry powder, one-fourth to one grain; of tincture (Laudanum), five to fifteen drops; of camphorated tincture (Paregoric), one-half to one teaspoonful; of

Morphine, one-eighth to one-fourth grain; of Dover's Powder, three to five grains.

Hyoscyamus (*Hyoscyamus Niger*), commonly known as Henbane. The herb is used. It is a powerful narcotic, and unlike Opium, does not constipate the bowels, but possesses a laxative tendency. Therefore, it may be employed as an anodyne for allaying pain, calming the mind, inducing sleep and arresting spasms, when opiates are inadmissible. *Dose*—Of alcoholic extract, one-half to two grains; of fluid extract, five to ten drops; of the concentrated principle, Hyoscyamin, one-twelfth to one-fourth of a grain.

Poison Hemlock (*Conium Maculatum*). The leaves are

Fig. 116.

Poison Hemlock.

the parts used. Poison Parsley, as it is sometimes called, is an anodyne, narcotic, and an excellent alterative. *Dose*—Of fluid

extract, two to six drops; of solid extract, one-fourth to one-half grain.

Belladonna (*Atropa Belladonna*) or Deadly Nightshade. The herb or leaves are a valuable agent. In overdoses, it is an energetic, narcotic poison. In medicinal doses it is anodyne, anti-spasmodic, diaphoretic, and diuretic. It is excellent in neuralgia, epilepsy, mania, amaurosis, whooping-cough, stricture, rigidity of the os uteri, and is supposed by some to be a prophylactic or preventive of Scarlet Fever. Its influence upon the nerve centers is remarkable. It relaxes the blood vessels on the surface of the body and induces capillary congestion, redness of the eye, scarlet appearance of the face, tongue, and body. *Dose*—Of fluid extract, one-half to one drop; of tincture, one to two drops; of concentrated principle, Atropin, one-thirtieth to one-sixteenth of a grain; of the *Alkaloid*, *Atropia*, one-sixtieth of a grain. Even the most skillful chemists are very cautious in compounding these latter active principles, and the danger of an overdose is great.

Camphor. This drug is an anodyne, stimulant, and diaphoretic, and, in large doses, a narcotic and an irritant. It is an excellent stimulant for liniments. *Dose*—Of the powder, one to five grains; of the tincture, ten to twenty drops, given in simple syrup.

Hops (*Humulus Lupulus*). This is an excellent remedy in wakefulness, and may be used when opium is contra-indicated. A bag of the leaves, moistened with whisky and placed as a pillow under the head, acts as an anodyne. *Dose*—Of the infusion of the leaves, from one to four ounces; of the fluid extract, one-fourth to three-fourths of a teaspoonful; of the concentrated principle, Humulin, one to three grains.

Dr. Pierce's Compound Extract of Smartweed. This anodyne compound is made by uniting several of the most valuable agents of this class, and its medicinal qualities are rendered still more efficacious by the addition of certain stimulating articles. It is free from narcotic properties which are liable to produce deleterious results, and has been found to be not only harmless in its action, but very genial and effectual withal, and most reliable as a stimulant and diaphoretic remedy.

ANTHELMINTICS.

Anthelmintic means "against a worm," and is a term employed to designate those medicines which destroy or expel worms. It means the same as *Vermifuge.* Little is understood concerning the origin of worms. There are five distinct varieties described by authors as being more common than others. There is the long worm, the short, or pin-worm, the thread-worm, the tape-worm, and the broad tape-worm peculiar to some countries of Europe. Irritation of the alimentary canal, from whatever cause, usually produces an abundant secretion of mucus, which is thought to be a condition favorable for their production. Therefore, those medicines which remove the cause of this irritation tend to diminish the number, if not to entirely destroy the worms. Some medicines kill the worms, others expel them alive. The remedies which successfully remove one kind of worm, have little effect upon another, and to meet these different conditions, we have a variety of worm-destroying medicines. The pin-worm inhabits the rectum, and may be destroyed by injecting into it a strong solution of salt, or decoction of aloes, and when it is allowed to pass away, the rectum should be anointed with vaseline, butter, or lard. The eggs of this worm are developed around the orifice of the large intestine, and when this latter precaution is not practiced every time there is a passage from the bowels, they will multiply as rapidly as they can be destroyed. Generally, vermifuge remedies should be taken when the stomach is empty, and should be followed by the administration of a cathartic in two hours after the last dose is administered.

Santonin. This is decidedly the most reliable anthelmintic known to the medical profession. It is deservedly a popular remedy for worms, and when combined with Podophyllin, is very efficacious in removing the pin-worm. *Dose*—For an adult, two to three grains of the powdered Santonin, repeated every three hours until four or five doses are taken, when it should be followed by a cathartic.

Sage (*Salvia Officinalis*). Sage is a common and excellent domestic remedy for worms. Make an infusion of Sage and Senna leaves, and drink freely until it acts as a cathartic.

Pink-root (*Spigelia Marilandica*). Pink-root is one of the most active and certain anthelmintics for children. It is

Fig. 117.

Pink-root.

indigenous to the United States. When taken in too large quantities, it is apt to purge, give rise to vertigo, dimness of vision, and even to convulsions; therefore, it should be

combined with some cathartic. *Dose*—Of the infusion, one ounce at night, followed by physic in the morning.

Common Salt (*Chloride of Sodium*). Common table salt is an anthelmintic, and may be used in an emergency. Salt water is a very common domestic remedy for worms. *Dose*—In solution, one-quarter to one-half teaspoonful.

Balmony (*Chelone Glabra*). This is also tonic and anthelmintic, and is valuable in debility, dyspepsia, jaundice, and hepatic affections. It also is known as Snake-head. *Dose*—Of the infusion, one to two ounces; of the concentrated principle, Chelonin, from half to one grain.

Male Fern (*Aspidium Filix Mas*). Male Fern is the anthelmintic which is considered especially effectual in removing the tape-worm. *Dose*—Of the powder, one to two drachms, given morning and evening in syrup, followed by a brisk cathartic. The dose of the tincture of the buds in ether is from eight to thirty drops.

Poplar (*Populus Tremuloides*). The White or Aspen Poplar is a common tree, and contains active principles termed Populin and Salicin, both of which are tonic. An infusion of the bark is a remedy for worms. *Dose*—Of the tea made from the bark, one to four ounces; of Populin, from one-half to two grains.

Fig. 118.

Aspen.

ANTIPERIODICS.

It is well understood that malarial diseases are characterized by a periodicity which indicates their nature. Antiperiodics prevent the recurrence of the periodic manifestations, and hence their name.

Quinine (*Sulphate of Quinia*). Quinine is a tonic, febrifuge, and antiperiodic. It should generally be administered during the intervals between the febrile paroxysms. It is beneficial also in all diseases accompanied by debility. The dose varies from one to six grains, according to indications. Frequently it is given in much

larger quantities, but we cannot advise such for domestic use.

Prussian Blue (*Ferri Ferrocyanidum*). Ferrocyanide of Iron is an excellent tonic and antiperiodic remedy, and often is combined with quinine. *Dose*—From two to five grains.

Boneset (*Eupatorium Perfoliatum*), or Thoroughwort. This is tonic, diaphoretic, aperient, and possesses some antiperiodic

Fig. 119.

Boneset.

properties; the warm infusion is emetic. *Dose*—Of the infusion, one to four ounces; of the fluid extract, from half to one teaspoonful; of the active principle, Eupatorin, one to three grains.

The "Golden Medical Discovery" has gained an enviable reputation in malarial districts for the cure of ague. From observing its action in the cure of this and other miasmatic diseases, and knowing its composition, we are thoroughly

satisfied that it contains chemical properties which neutralize and destroy the miasmatic or ague poison which is in the system, and, at the same time, produces a rapid excretion of the neutralized poisons. One strong proof of this is found in the fact that persons who are cured with it are not so liable to relapse as those in whom the chills are broken with Quinine or other agents. No bad effects are experienced after an attack of ague which has been cured with the "Golden Medical Discovery." This cannot be said of Quinine, Peruvian Bark, Arsenic, and Mercurials, which comprise nearly the whole list of remedies usually resorted to by physicians for arresting ague. The "Golden Medical Discovery" not only has the merit of being a certain antidote for miasmatic diseases, but is pleasant to the taste, a matter of no small importance, especially when administered to children. To break the chills, this medicine should be taken in doses of four teaspoonfuls three times a day, and if this treatment pursued for three days, does not entirely arrest the chills, these doses may be repeated in alternation with five-grain doses of quinine for the three succeeding days. But in no case should more than this amount of the "Golden Medical Discovery" be given.

ANTISEPTICS AND DISINFECTANTS.

Antiseptics prevent, while disinfectants arrest putrefaction. Oxygen is a natural disinfectant, but a powerful inciter of change. Although this element is the cause of animal and vegetable decay, yet oxidation is the grand process by which the earth, air, and sea are purified. A few substances are both antiseptic and disinfectant. Heat up to a temperature of 140° Fahr. promotes putrescence, but above that point, is a drier or disorganizer, and destroys the source of infection.

Yeast (*Cerevisiæ Fermentum*). Yeast is an antiseptic, and is effective in all diseases in which there is threatened putridity. Used externally, it is often combined with elm bark and charcoal, and applied to ulcers, in which there is a tendency to gangrene. *Dose*—One tablespoonful in wine or porter, once in two or three hours.

Creasote. This is a powerful antiseptic. It is used in a

solution of glycerine, oil, water, or syrup. *Dose*—One to two drops, largely diluted.

Carbolic Acid is a crystalline substance resembling creasote in its properties. It is an antiseptic, and is used both internally and externally. *Dose*—One-fourth to one-half drop of the melted crystals, very largely diluted. Externally, in solution, one to five grains of the crystals to one ounce of the solvent.

White Vitriol (*Zinci Sulphas*). White vitriol is a valuable disinfectant, as it will arrest mortification. In solution it is employed in ulcers and cancers and also as a gargle in putrid sore throat. *Dose*—One-half to two grains in a pill; in solution, one to ten grains in an ounce of water.

Permanganate of Potash (*Potassæ Permangunas*). This substance is an energetic deodorizer and disinfectant. A solution containing from one to twenty grains in an ounce of water is used as a lotion for foul ulcers. *Dose*—One-eighth to one-fourth of a grain.

Wild Indigo (*Baptisia Tinctoria*). The root is the part used. This plant possesses valuable antiseptic properties. It is an excellent lotion for ill-conditioned ulcers, malignant sore throat, nursing sore-mouth, syphilitic ophthalmia, etc. It is sometimes administered in scarlet and typhus fevers, and in all diseases in which there is a tendency to putrescence. *Dose*—Of the infusion, one-fourth to one-half ounce; of the fluid extract, from three to ten drops, and of the concentrated, active principle of the plant, Baptisin, from one to two grains.

ANTISPASMODICS.

Antispasmodics are a class of remedies which relieve cramps, convulsions, and spasms, and are closely allied to nervines. Indeed some authors class them together. The following are a few of the most important antispasmodics:

Assafetida (*Assafetida Ferula*). This is a powerful antispasmodic. It is employed in hysteria, hypochondria, convulsions, and spasms, when unaccompanied by inflammation. *Dose*—Of the gum or powder, from three to ten grains, usually administered in the form of a pill; of the tincture, from one-half to one teaspoonful.

Yellow Jessamine (*Gelseminum Sempervirens*). The root is the part used. This is a valuable remedy in various

Fig. 120.

Yellow Jessamine.

diseases when associated with restlessness and a determination of the blood to the brain; also in the neuralgia. *Dose*—Of the

fluid extract, three to eight drops; of the concentrated principle, Gelsemin, one-fourth to one grain. The use of this drug by non-professional persons should be attended with great caution.

Valerian (*Valeriana Officinalis*). The root is the part used. Valerian is an effective remedy in cases of nervousness and restlessness. *Dose*—Of the infusion, (one-half ounce to a pint of water) one-half ounce; of the tincture, one-half to two tablespoonfuls; of the ammoniated tincture of valerian, from one-half to two teaspoonfuls in sweetened water or milk; of the valerianate of ammonia, one-half to three grains.

Yellow Lady's Slipper (*Cypripedium Pubescens*). The root is the part used. This is a useful remedy in hysteria, chorea, and all cases of irritability. *Dose*—Of the powder, fifteen to thirty grains; of the infusion, one ounce; of the fluid extract, fifteen to thirty drops; of the concentrated principle, Cypripedin, one-half to two grains.

Wild Yam (*Dioscorea Villosa*). The root is the part used. This is a powerful antispasmodic, and has been successfully used in bilious colic, nausea, and spasm of the bowels. *Dose*—Of the infusion (two ounces to a pint of water), one to two ounces; of the fluid extract, five to fifteen drops; of the concentrated principle, Dioscorein, one-half to one grain.

High Cranberry (*Viburnum Opulus.*) The bark is the part used. It is also known as Cramp Bark. This is a powerful antispasmodic, and is effective in relaxing spasms of all kinds. It is a valuable agent in threatened abortion. *Dose*—Of the infusion, one-half to one ounce; of the fluid extract, one-half to one teaspoonful; of the concentrated principle, Viburnin, one-half to two grains. These doses may be increased if necessary.

ASTRINGENTS.

Astringents are medicines which condense and coagulate the tissues, thereby arresting discharges. When taken into the mouth, they produce the sensation known as puckering. They are used internally and locally. The term *styptic* is used as a synonym of astringent, but is generally employed to designate those astringents which arrest hemorrhage, or bleeding.

Logwood (*Hæmatoxylon Campechianum*). Logwood is a mild astringent, well adapted to remedy the relaxed condition of the bowels after cholera infantum. *Dose*—Of powdered extract, five to ten grains; of the decoction, one ounce; of the fluid extract, fifteen to thirty drops.

Blackberry Root (*Rubus Villosus*). This astringent is a favorite, domestic remedy in affections of the bowels. *Dose*—Of the infusion (bruised root), one-half to one ounce, sweetened.

Witch-hazel (*Hamamelis Virginica*). The parts used are the leaves and bark. This is a most valuable astringent

Fig. 121.

Witch-hazel.

and exerts a specific action upon the nervous system. It arrests many forms of uterine hemorrhage with great promptness, is a valuable agent in the treatment of piles, and is useful in

many forms of chronic throat and bronchial affections. *Dose*—Of the infusion, one-fourth to one-half ounce; of the fluid extract, eight to fifteen grains; of the concentrated principle, Hamamelin, one fourth to one grain.

Cranesbill (*Geranium Maculatum*). The root is used.

Fig. 122.

Cranesbill.

This plant is also known as Crow-foot, and Spotted Geranium. It is a pleasant, but powerful astringent. *Dose*—Of the fluid

extract, ten to thirty drops; of the concentrated principle, Geranin, one to two grains.

Hardhack (*Spirea Tomentosa*), Spirea, or Meadow Sweet. The stem and leaves are used. It is a tonic and an astringent, and

Fig. 123.

Bugle-weed.

Fig. 124.

Hardhack.

is used in diarrhea and cholera-infantum. *Dose*—Of the infusion, one-half to one ounce; of the fluid extract, three to six drops.

Bugle-weed (*Lycopus Virginicus*). This is variously known as Water-hoarhound and Water-bugle. It is sedative and tonic, as well as astringent, and is employed in hemorrhages

and in incipient phthisis. *Dose*—Of the infusion, one to two ounces; of the fluid extract, fifteen to twenty-five drops; of the concentrated principle, Lycopin, one-half to one grain.

Canada Fleabane (*Erigeron Canadense*). The leaves

Fig. 125.

Canada Fleabane.

and flowers are used. This plant, sometimes known as Colt's-tail, Pride-weed, or Butter-weed, is astringent, and has been

efficiently employed in uterine hemorrhages. *Dose*—Of the infusion (two ounces of the herb to one pint of water), one to two ounces; of the oil, five to ten drops on sugar, repeated at intervals of from one to four hours.

Catechu (*Acacia Catechu*). A tincture of this plant is a pure, powerful astringent, and is especially useful in chronic diarrhea, chronic catarrh, and chronic dysentery. *Dose*—Of the powder, five to twenty grains; of the tincture, one-half to two teaspoonfuls.

Tannin (*Acidum Tannicum*). This acid has a wide range of application. It is used as an astringent. *Dose*—One to five grains.

Gallic Acid (*Acidum Gallicum*). This remedy is used chiefly in hemorrhages. *Dose*—Three to five grains. In severe hemorrhages, this quantity should be administered every half hour, until the bleeding is checked.

CARMINATIVES.

Carminatives are medicines which allay intestinal pain, arrest or prevent griping caused by cathartics and exert a general soothing effect. They are aromatic, and to a certain extent, stimulant.

Anise-seed (*Pimpinella Anisum*). Anise is a pleasant, aromatic carminative, and is used in flatulent colic. *Dose*—Of the powdered seed, ten to fifteen grains; of the infusion (a teaspoonful of seed to a gill of water), sweetened, may be given freely; of the oil, five to ten drops on sugar.

Fennel-seed (*Anethum Fœniculum*). This is one of our most grateful aromatics, and is sometimes employed to modify the action of senna and rhubarb. *Dose*—Same as that of anise-seed.

Ginger (*Zingiber Officinale*). The root is the part used. This is a grateful stimulant and carminative. *Dose*—Of the powder, ten to twenty grains; of the infusion, one teaspoonful in a gill of water; of the tincture, twenty to thirty drops; of the essence, ten to fifteen drops; of the syrup, one teaspoonful.

Wintergreen (*Gaultheria Procumbens*). The leaves are used. This plant possesses stimulant, aromatic, and astringent properties. The essence of Wintergreen is carminative, and is

used in colics. *Dose*—Of the essence, one-half to one teaspoonful in sweetened water; of the oil, three to five drops on sugar.

Peppermint (*Mentha Piperita*). Peppermint is a powerful stimulant, carminative, and antispasmodic. It is used in the treatment of spasms, colic, and hysteria. *Dose*—The infusion may be used freely. The essence may be taken in doses of fifteen to thirty drops in sweetened warm water; of the oil, one to five drops on sugar.

Spearmint (*Mentha Viridis*). The carminative properties of spearmint are inferior to those of peppermint, and its chief employment is for its diuretic and febrifuge virtues. *Dose*—Same as that of peppermint.

Compound Extract of Smart-weed. Dr. Pierce's Extract of Smart-weed is a valuable carminative and aromatic stimulant, and has been employed with marked success in all diseases in which this class of remedies is required.

CATHARTICS.

Cathartics, or *Purgatives* are medicines which act upon the bowels and increase the secretions and evacuations. In many parts of the country, these agents are known as purges, or physics. They have been variously divided and sub-divided, usually with reference to the energy of their operations or the character of the evacuations produced.

Laxatives, or *Aperients*, are mild cathartics. Purgatives act with more energy and produce several discharges which are of a more liquid character and more copious than the former.

Drastics are those cathartics which produce numerous evacuations accompanied by more or less intestinal irritation.

Hydragogues are those purgatives which produce copious, watery discharges.

Cholagogues are those purgatives which act upon the liver, stimulating its functions. Cathartics constitute a class of remedies which are almost universally employed by families and physicians.

Jalap (*Ipomœa Jalapa*). The root is used. It is a drastic and a hydragogue cathartic. Formerly it was combined with equal parts of calomel. From this fact it received the name of "ten and ten." *Dose*—Of the powder, five to twenty grains;

of the fluid extract, ten to fifteen drops; of the solid extract, two to four grains; of the concentrated principle, Jalapin, one-half to two grains.

Fig. 126.

Culver's-root.

Gamboge (*Gambogia*). The gum is used. Gamboge is a powerful drastic, hydragogue cathartic, which is apt to produce nausea and vomiting. It is employed in dropsy. It should never be given alone, but combined with milder cathartics. It accelerates their action while they moderate its violence. *Dose*—Of the powder, one-half to two grains. This substance combined with aloes and sometimes with scammony, constitutes the basis of the numerous varieties of large, cathartic pills found in the market.

Culver's-root. (*Leptandra Virginica*). The root is used. This plant, known under the various names of Culver's Physic, Black-root, Tall Speedwell, and Indian Physic, is a certain cholagogue, laxative, and cathartic. *Dose*—Of decoction, one to two fluid ounces; of fluid extract, ten to twenty drops; of tincture, twenty to thirty drops; of the concentrated, active principle, Leptandrin, which is but feebly cathartic as a laxative, two to five grains.

Rhubarb (*Rheum Palmatum*). This is much used as a domestic remedy, and by the profession, for its laxative, tonic, and astringent effects. It is employed in bowel complaints. *Dose*—Of the powder, ten to thirty grains; of the tincture, one-half to two teaspoonfuls; of the fluid extract, ten to thirty drops; of the solid extract, three to five grains; of the syrup, and aromatic

syrup, an excellent remedy for children, one-half to one teaspoonful.

Cascara Sagrada (*Rhamnus Purshiana*), is a very efficient remedy in chronic constipation. *Dose*—Of the fluid extract, from ten to twenty drops taken in a tablespoonful of water. The unpleasant taste may be disguised with the extract of liquorice.

Castor Oil (*Oleum Ricini*). *Dose*—From one to four teaspoonfuls. It may be disguised by rubbing it with an equal quantity of glycerine and adding one or two drops of oil of anise, cinnamon, or wintergreen.

Butternut (*Juglans Cinerea*). The bark is the part used. Butternut is a mild cathartic, which resembles rhubarb in its property of evacuating the bowels without irritating the alimentary canal. *Dose*—Of the extract, as a cathartic, five to ten grains; of the fluid extract, one-half to one teaspoonful; of the concentrated principle, Juglandin, one to three grains. As a laxative, one-half of these quantities is sufficient.

Aloes (*Aloe*). The gum is used. This cathartic acts upon the lower part of the bowels and sometimes causes piles; though some late authors claim that in small doses it is a valuable remedy for piles. *Dose*—In powder or pill, three to ten grains; as a laxative, one to three grains.

Epsom Salts (*Magnesia Sulphas*). Its common name is "Salts." Much used in domestic practice. *Dose*—One-fourth to one-half ounce.

Dr. Pierce's Pleasant Pellets, being entirely vegetable in their composition, operate without disturbance to the system, diet, or occupation. Put up in glass vials. Always fresh and reliable. As *a laxative, alterative,* or gently acting but searching *cathartic,* these little Pellets give the most perfect satisfaction. Sick Headache, Bilious Headache, Dizziness, Constipation, Indigestion, Bilious Attacks, and all derangements of the stomach and bowels, are promptly relieved and permanently cured by the use of Dr. Pierce's Pleasant Pellets. In explanation of the remedial power of these Pellets over so great a variety of diseases, it may truthfully be said that their action upon the system is universal, not a gland or tissue escaping their sanative influence.

Everybody, now and then, needs a gentle laxative to assist nature a little; or, a more searching and cleansing, yet gentle cathartic, to remove offending matter from the stomach and bowels and tone up and invigorate the liver and quicken its tardy action. Thereby the "Pleasant Pellets" cure biliousness, sick and bilious headache, costiveness, or constipation of the bowels, sour stomach, windy belchings, "heart-burn," pain and distress after eating, and kindred derangements of the liver, stomach and bowels.

Persons subject to any of these troubles should never be without a vial of the "Pleasant Pellets" at hand. In proof of their superior excellence it can be truthfully said that they are always adopted as a household remedy after the first trial.

The "Pleasant Pellets" are far more effective in arousing the liver to action than "blue pills," the old-fashioned compound cathartic pills, calomel or other mercurial preparations, and have the further merit of being purely vegetable in their composition and perfectly harmless in any condition of the system. Furthermore, no particular care is required while using them.

Being composed of the choicest, concentrated vegetable extracts, their cost of production is much more than that of most pills found in the market, yet from forty to forty-four of them are put up in each glass vial, as sold through druggists, and can be had at the price of the more ordinary and cheaper made pills. Once used, they are always in favor. Their secondary effect is to keep the bowels open and regular, not to further constipate, as is the case with other pills. Hence, their great popularity with sufferers from habitual constipation, piles and their attendant discomfort and manifold derangements.

For all laxative and cathartic purposes the "Pleasant Pellets" are infinitely superior to all "mineral waters," sediltz powders, "salts," castor oil, fruit syrups (so-called), laxative "teas," and the many other purgative compounds sold in various forms.

If people generally, would pay more attention to properly regulating the action of their bowels, they would have less frequent occasion to call for their doctor's services to subdue attacks of dangerous diseases. Hence it is of great importance to know what safe, harmless agent best serves the purpose of producing the desired action.

DIRECTIONS FOR USING DR. PIERCE'S PLEASANT PELLETS.

In all cases, the size of dose to be taken must be regulated somewhat by the known susceptibility of the individual to the action of laxative and cathartic medicines. Some persons' bowels are readily acted upon by small doses, while others require more. As a general rule, the smaller doses which we recommend, are quite sufficient, and produce the best results if presisted in for a reasonable length of time.

FOR A GENTLE APERIENT, OR LAXATIVE, take one or not more than two and preferably in the morning, on an empty stomach.

FOR A GENTLE CATHARTIC, two or three are generally sufficient, if taken in the morning, on an empty stomach.

FOR A VERY ACTIVE, SEARCHING CATHARTIC, four to six may be taken in the morning, on an empty stomach.

FOR A CHILD OF TWO TO FOUR YEARS, one-half of a Pellet given in a little sauce of some kind, or soft candy, will be sufficient for a laxative, or one for a mild cathartic.

FOR A CHILD OF FOUR TO EIGHT YEARS, one for a laxative or two for a cathartic will act nicely, if given on an empty stomach.

AS A DINNER PILL.—To promote digestion and increase the appetite, take only one Pellet each day after dinner.

To overcome the disagreeable effects of a too hearty meal, take two Pellets as soon as conscious of having overloaded the stomach.

IN ALL CHRONIC DISEASES, it is of the utmost importance that the bowels be kept *regular*, yet thorough purgation should be avoided, as it tends to debilitate the system. Small laxative doses of one or at most two Pellets, taken daily and continued for a long time, is the plan that we would recommend to produce the best results.

IN DROPSY, an occasional active cathartic dose of the Pellets of say 4 to 6, taken once in a week or ten days, will do good, if, in the interval between these doses, Dr. Pierce's Golden Medical Discovery be taken to invigorate and regulate the system.

TO BREAK UP SUDDEN ATTACKS OF COLDS, FEVERS, AND INFLAMMATIONS.—It is only in these sudden and severe attacks of *acute* diseases that we recommend the Pellets to be taken in

active purgative doses, and in these cases *only one* large or cathartic dose of say 5 or 6 Pellets should be taken.

In colds, fevers, and inflammatory attacks, warm sweating teas should be taken freely, and hot foot baths, or a hot general bath, employed to assist in equalizing the circulation of the blood and restoring the equilibrium of the system.

SUPPRESSED MENSTRUATION.—This combined treatment of an active dose of Pellets, coupled with the use of a hot bath, foot bath, or, better still, a hot sitz-bath, will bring on *menstruation*, when suppressed from taking cold. In the latter case the effect will be insured if, in addition to the use of the Pellets and baths, a full dose of Dr. Pierce's Compound Extract of Smart-Weed, or Water Pepper, be also used.

CAUSTICS.

Caustics are substances which have the power of destroying or disorganizing animal structures. By their action they destroy the tissue to which they are applied, and form a crust, which is thrown off by a separation from the parts beneath. Their caustic property may be destroyed by dilution with other substances, to such an extent that they will only irritate or stimulate, and not destroy. Much care is necessary in their employment, and it is not expected that the unprofessional reader will have much to do with them; hence, we have deemed it best not to give a list of these agents.

COUNTER-IRRITANTS.

Counter-irritants are substances which produce irritation of the part to which they are applied, varying in degree from a slight redness to a blister or pustule. They are applied to the surface with a view of producing an irritation to relieve irritation or inflammation in some other or deeper seated part. They are a class of agents which we very seldom employ, and, hence, we shall notice only a couple of the most simple.

Mustard (*Sinapis*). The flour of mustard, which is best adapted for domestic use, is employed in the form of a paste spread on cloth. It takes effect in a few moments; the length of time it remains in contact with the skin and the strength of the mustard determine the effect produced.

Horse-radish (*Cochlearia Armoracia*). The leaves are

the parts used. Let them wilt and bind them on the part affected. They act nearly as energetically as mustard.

DIAPHORETICS.

Diaphoretics are medicines which increase perspiration. Those which occasion profuse sweating are termed *Sudorifics*. The two terms indicate different degrees of the same operation. They constitute an important element in domestic practice, on account of the salutary effects which generally follow their action. Their operation is favored by warmth externally, and warm drinks, when they are not given in hot infusion.

Pleurisy-root (*Asclepias Tuberosa*), is also known as

Fig. 127.

Pleurisy-root.

White-root, and Butterfly-weed. It is a valuable remedy, well adapted to break up inflammations and diseases of the chest

Dose—Of infusion, one to two ounces; of fluid extract, one-fourth to one-half teaspoonful; of the concentrated principle, Asclepin, one to three grains.

Saffron (*Crocus Sativus*). Golden Saffron. *Dose*—Of infusion (one drachm to a pint of water), one to two ounces.

Sage (*Salvia Officinalis*). The warm infusion drunk freely is a valuable, domestic diaphoretic.

Virginia Snake-root (*Aristolochia Serpentaria*), is an

Fig. 128.

Virginia Snake-root.

efficient agent. *Dose*—Of infusion, one to two ounces; of tincture, one-fourth to one teaspoonful; of fluid extract, one-fourth to one-half teaspoonful.

Jaborandi (*Pilocarpus Pinnatus*). Jaborandi increases the flow of saliva, causes profuse perspiration, and lowers the temperature of the body. In doses of from twenty to sixty drops of the fluid extract, administered in a cup of warm water or herb-tea on going to bed, we have found it very effectual for breaking up recent colds. We have also found it valuable in whooping-cough, in doses of from three to ten drops, according to the age of the child, given three or four times a day. The fluid extract may be obtained at almost any drug-store.

May-weed (*Maruta Cotula*), is also known as Wild

Fig. 129.

May-flower.

Chamomile, and Dog-fennel. It is not much used, though it is a powerful diaphoretic. *Dose*—Of infusion, one to two ounces.

Catnip (*Nepeta Cataria*). A deservedly popular, domestic

remedy, always acceptable, and certain in its action. The warm infusion is the best form for its administration. It may be drunk freely.

Ginger (*Zingiber Officinale*). The hot infusion may be sweetened and drunk as freely as the stomach will bear.

Dr. Pierce's Compound Extract of Smartweed. This is unsurpassed as a diaphoretic agent, and is much more certain in its operation than any simple diaphoretic.

DILUENTS.

Any fluid which thins the blood or holds medicine in solution is called a diluent. Pure water is the principal agent of this class. It constitutes about four-fifths of the weight of the blood, and is the most abundant constituent of the bodily tissues. Water is necessary, not only for digestion, nutrition, and all functional processes of life, but it is indispensable as a menstruum for medicinal substances. It is a necessary agent in depuration, or the process of purifying the animal economy, for it dissolves and holds in solution deleterious matter, which in this state may be expelled from the body. In fevers, water is necessary to quench the thirst, promote absorption, and incite the skin and kidneys to action. Its temperature may be varied according to requirements. Diluents are the vehicles for introducing medicine into the system. We shall briefly mention some which prove to be very grateful to the sick.

Various vegetable acids and jellies may be dissolved in water, as apple, currant, quince, grape, or cranberry.

The juice of lemons, oranges, pine-apples, and tamarinds, is also found to be refreshing to fever patients.

Sassafras-pith, slippery-elm bark, flax-seed, and gum arabic make good mucilaginous drinks for soothing irritation of the bowels and other parts.

Brewers' yeast mixed with water in the proportion of from one-eighth to one-fourth is a stimulant and antiseptic.

The white ashes of hickory or maple wood dissolved in water make an excellent alkaline drink in fevers, or whenever the system seems surcharged with acidity.

DIURETICS.

Diuretics are medicines which, by their action on the kidneys, increase the flow of urine.

Marsh-mallow (*Althea Officinalis*), is used in irritable

Fig. 130.

Marsh-mallow.

conditions of the urinary organs. The infusion may be drunk freely.

Gravel-plant (*Epigea Repens*), is also known as Water-pink, Trailing-arbutus, or Gravel-root. *Dose*—Of decoction of

the plant, one to three ounces; of fluid extract, one-fourth to one-half teaspoonful.

Stone-root (*Collinsonia Canadensis*), is also known as Knot-root, Horse-balm, Rich-weed, or Ox-balm. This is a mild diuretic, slow in action, yet effective in allaying irritation of the

Fig. 131.

Stone-root.

bladder. The root is the part used. *Dose*—Of infusion, one to two ounces; of fluid extract, five to ten drops; of the concentrated principle, Collinsonin, one-half to one grain.

Foxglove (*Digitalis purpurea*) slows the action of the

heart, lowers the temperature, and acts indirectly as a diuretic. It is especially valuable in the treatment of scarlet fever and in dropsy. *Dose*—Of infusion, one-half drachm to one-half ounce; of the fluid extract or strong tincture, from two to ten drops. It should be used with caution. A poultice made of the leaves and placed over the kidneys is an effectual method of employing the drug.

Queen of the Meadow (*Eupatorium Purpureum*), is also known as Gravel-weed, Gravel-root, or Trumpet-weed. This is a most valuable diuretic. *Dose*—Of the infusion, one to three ounces; of fluid extract, one-fourth to one-half teaspoonful; of the concentrated principle, Eupatorin (*Purpu*), one-half to two grains.

Buchu (*Barosma Crenata*). The leaves are used. This agent has been extensively employed, generally in compounds. *Dose*—Of infusion, (steeped for two hours or more) one to two ounces; of fluid extract, the same; of the concentrated principle, Barosmin, one to three grains.

Pipsissewa (*Chimaphila Umbellata*), or Prince's Pine. This is a tonic to the kidneys, as well as a diuretic and alterative, and is a mild, but very efficient remedy. *Dose*—Of decoction, one ounce from four to six times a day; of fluid extract, one-fourth to one-half teaspoonful; of the concentrated principle, Chimaphilin, one to two grains.

Water-melon Seeds (*Cucurbita Citrullus*). *Dose*—Of infusion, the patient may drink freely until the desired effect is secured.

Pumpkin Seeds (*Cucurbita Pepo*). They are mild, unirritating, yet effective diuretics. An infusion of these may be drunk freely.

Sweet Spirit of Nitre (*Spiritus Ætheris Nitros*), is diuretic and anodyne. *Dose*—One-fourth to one-half teaspoonful, diluted in water, every two or three hours.

Saltpetre (*Potassæ Nitras*). *Dose*—Powdered, five to ten grains.

Acetate of Potash (*Potassæ Acetas*). *Dose*—Ten to fifteen grains, largely diluted in water. It is more frequently used for this purpose than the nitrate. It is a most valuable diuretic.

EMETICS.

These are medicines which cause vomiting and evacuation of the stomach. Some of the agents of this class, termed irritant emetics, produce vomiting by a local action on the stomach, and do not affect this organ when introduced elsewhere. Others, which may be termed systemic emetics, produce their effects through the nervous system, and, therefore, must be absorbed into the circulation before they can produce vomiting. In cases of poisoning, it is desirable to empty the stomach as quickly as possible, hence irritant emetics should be employed, for they act more speedily. Draughts of warm water favor the action of emetics.

Mustard (*Sinapis*) acts promptly and efficiently as an emetic, and may be employed in poisoning. *Dose*—From one to two teaspoonfuls of powdered mustard, stirred up in a glass of tepid water. It should be quickly swallowed and diluents freely administered.

Sulphate of Copper (*Cupri Sulphas*) is a prompt, irritant emetic. It should be given in doses of ten grains dissolved in half a glass of water, and its action assisted by the free use of diluents.

Sulphate of Zinc (*Zinci Sulphas*) is similar in its effects to sulphate of copper, but less powerful, and may be taken in the same manner, and the dose repeated if necessary in fifteen minutes.

Yellow Subsulphate of Mercury (*Hydrargyri Sulphas flava*), commonly known as *Turpeth Mineral*, is an efficient and most desirable emetic in membranous croup. It is an active poison, but, as it is quickly thrown up with the contents of the stomach, there is no danger from its administration. *Dose*—It should be given to a child in doses of from three to five grains, in the form of powder, rubbed up with sugar of milk.

Ipecac (*Cephælis Ipecacuanha*). In large doses Ipecac is a systemic emetic. In small doses, it exerts a specific influence upon the mucous membranes, relieves nausea and irritation, and subdues inflammation. In cholera infantum it is an invaluable remedy, if given in very small doses. By allaying irritation of the stomach and restoring tone and functional activity to it and

the bowels, it gradually checks the discharges and brings about a healthy condition. It is also valuable in dysentery, and is borne in large doses. As an emetic the dose is, of powder, five to ten grains in warm water; of fluid extract, ten to twenty drops.

Lobelia (*Lobelia Inflata*), sometimes known as Indian

Fig. 132.

Lobelia.

Tobacco, or Emetic-weed. The herb and seeds are used. This is a powerful, systemic emetic but very depressing. *Dose*—Of

the powdered leaves, fifteen to twenty grains; of the infusion, one to three ounces; of the fluid extract, ten to fifteen drops.

Boneset (*Eupatorium Perfoliatum*). *Dose*—Of the warm infusion or decoction, two to three ounces; of the fluid extract, one teaspoonful in hot water; of the concentrated principle, Eupatorin, two to five grains.

EMMENAGOGUES.

Emmenagogue is a term applied to a class of medicines which have the power of favoring the discharge of the menses. We shall mention only a few of those which are best adapted to domestic use.

Pennyroyal (*Hedeoma Pulegioides*). Pennyroyal, used freely in the form of a warm infusion, promotes perspiration and excites the menstrual discharge when recently checked. A large draught of the infusion should be taken at bed-time. The feet should be bathed in warm water previous to taking the infusion.

Fig. 133.

Pennyroyal.

Black Cohosh (*Cimicifuga Racemosa*). Black Cohosh, known also as Black Snake-root, is an effective remedy in uterine difficulties. *Dose*—Of the tincture, twenty drops; of the fluid extract, ten drops.

Tansy (*Tanacetum Vulgare*). Tansy is beneficial in suppressed menstruation. *Dose*—Of the infusion, from one to four fluid ounces.

Ergot (*Secale Cornutum*) in very small doses acts as an emmenagogue, and in large doses it checks hemorrhage. The dose as an emmenagogue, of the fluid extract, is from two to five drops, and to arrest hemorrhage, from half a drachm to two drachms, repeated in from one to three hours.

Life-root (*Senecio Gracilis.*) Life-root exerts a peculiar influence upon the female reproductive organs, and for this reason has received the name of Female Regulator. It is very

efficacious in promoting the menstrual flow, and is a valuable agent in the treatment of uterine diseases. *Dose*—Of the decoction, four fluid ounces three or four times a day; of the fluid extract, from one-fourth to one-half teaspoonful.

Motherwort (*Leonurus Cardiaca*). Motherwort is usually given in warm infusion, in suppression of the menses from cold. *Dose*—Of the decoction, from two to three fluid ounces every one or two hours.

Dr. Pierce's Favorite Prescription is an efficient remedy in cases requiring a medicine to regulate the menstrual function. Full directions accompany every bottle.

Dr. Pierce's Compound Extract of Smart-weed is an excellent emmenagogue. Dr. Eberle, a very celebrated medical writer, and author of a work on medicine which is very popular with the profession, says that he has used the "Extract of Smart-weed" in twenty cases of amenorrhea (suppressed menstruation), and affirms "with no other remedy or mode of treatment have I been so successful as with this." Full directions accompany every bottle. It is sold by all druggists.

EXPECTORANTS.

Expectorants are medicines which modify the character of the secretions of the bronchial tubes, and promote their discharge. Most of the agents of this class are depressing in their influence and thus interfere with digestion and healthy nutrition. Their application is very limited, hence we shall dismiss them without further consideration.

LINIMENTS.

Liniments are medicines designed for external application. The benefits arising from their use depend upon their derivative power, as well as upon the anodyne properties which many of them possess, rendering them efficacious for soothing pain. We cannot mention a more valuable agent of this class than

Dr. Pierce's Compound Extract of Smart-weed. As an external application this preparation subdues inflammation and relieves pain. For all wounds, bruises, sprains, bee-stings, insect and snake-bites, frost-bites, chilblains, caked breast, swollen glands, rheumatism, and, in short, for any and

all ailments, whether afflicting man or beast, requiring a direct external application, either to allay inflammation or soothe pain, the Extract of Smart-weed cannot be excelled.

NARCOTICS.

A narcotic is a remedy which, in *medicinal* doses, allays morbid sensibility, relieves pain, and produces sleep; but which, in overdoses, produces coma, convulsions, and death. The quantity necessary to produce these results varies in different individuals. We shall mention a few of those most frequently employed.

Henbane (*Hyoscyamus Niger*). The leaves and seeds are

Fig. 134.

Henbane.

used. Henbane, in large doses, is a powerful narcotic and dangerously poisonous. In medicinal doses, it is anodyne and antispasmodic; it allays pain, induces sleep, and arrests spasms.

Dose—Of the fluid extract, five to ten drops; of the solid extract, from one-half to one grain; of the concentrated principle, Hyoscyamin, from one-twelfth to one-fourth of a grain.

Indian Hemp (*Cannabis Indica*). An East Indian plant. *Dose*—Of the extract, from one-fourth to one-half grain; of the tincture, from three to eight drops; of the fluid extract, from two to five drops. The plant known as Indian Hemp, growing in this country, possesses very different qualities.

Stramonium (*Datura Stramonium*). Stramonium, also

Fig. 135.

Stramonium.

known as Thorn-apple, in large doses is a powerful narcotic poison. In medicinal doses it acts as an anodyne and antispasmodic. *Dose*—Of extract of the leaves, from one-half to one grain; of the fluid extract, from three to six drops.

NERVINES.

These are medicines which act on the nervous system, soothing excitement and quieting the condition known as "nervousness."

Hops (*Humulus Lupulus*). *Dose*—Of infusion, one to three ounces; of the fluid extract, one-fourth to one-half teaspoonful of the concentrated principle, Humulin, two to three grains.

Scull-cap (*Scutellaria Lateriolia*). The herb is used.

Fig. 136.

Scull-cap.

It is also known as Mad-dog Weed. This is a valuable remedy. *Dose*—Of infusion, one to two ounces, of the fluid extract, ten to twenty drops; of the concentrated principle, *Scutellarin*, one to two grains.

Lady's Slipper (*Cypripedium Pubescens*). The root is

used. *Dose*—Of the infusion, one-half to one-ounce; of the fluid extract, one-fourth to one-half teaspoonful; of the concentrated principle, Cypripedin, one to two grains.

Pulsatilla (*Pulsatilla Nigricans*). We employ the German tincture, prepared from the green herb. In many of the distressing nervous complications to which both males and females are subject in certain diseases of the generative organs, we have found it very effectual. The dose is from two to eight drops.

Dr. Pierce's Favorite Prescription. This is a tonic nervine of unsurpassed efficacy, combined in such a manner, that, while it quiets nervous irritation, it strengthens the enfeebled nervous system, restoring it to healthful vigor. In all diseases involving the female reproductive organs, with which there is usually associated an irritable condition of the nervous system, it is unsurpassed as a remedy. It is also a uterine and general tonic of great excellence. It is sold by all druggists.

SEDATIVES.

Sedatives are a class of agents which control excitation of the circulation, and diminish irritability of the nervous system.

Aconite (*Aconitum Napellus*). The parts used are the root and leaves. Aconite slows the pulse, diminishes arterial tension, and lowers the temperature of the body in fevers. It is an effectual remedy in acute inflammation of the tonsils and throat, in acute bronchitis, in inflammation of the lungs, and pleurisy, in the hot stage of intermittent and remittent fevers, in the eruptive fevers, in fever arising from a cold, and in some forms of neuralgia. Acute suppression of the menses from a cold, may be relieved by the tincture of aconite in drop doses every hour. *Dose*—Of the tincture of the root, from one-half of a drop to two drops, in a spoonful of water. In acute fevers and inflammations, from one-half drop to one drop should be administered every half hour or hour, according to the severity of the symptoms.

Peach Tree (*Amygdalus Persica*). Peach tree leaves and bark are slightly sedative, but the chief use which we have found for these articles is to control nausea and vomiting arising from irritability of the stomach. It also possesses mild, tonic properties. *Dose*—Of infusion of the

bark of the small twigs or of the leaves, from two to six teaspoonfuls.

American Hellebore (*Veratrum Viride*) is also known as

Fig. 137.

American Hellebore.

White Hellebore, Indian Poke, or Swamp Hellebore. The root is the part used. It is a most valuable agent with which to

control the frequent, strong, bounding pulse common to many febrile and inflammatory diseases. When the pulse is hard, incompressible, and bounding, this remedy is more effectual than aconite. *Dose*—Of the tincture and fluid extract, from one to two drops, repeated every half hour to two hours, according to the severity of the symptoms. This remedy should be given in very small doses, frequently repeated, if we would secure its best effects. Our favorite mode of administering both veratrum and aconite is to add ten drops of the tincture to ten or fifteen teaspoonfuls of water, of which one teaspoonful may be administered every hour.

Yellow Jessamine (*Gelseminum Sempervirens*). The root is the part used. Through its controlling effect over the sympathetic nervous system, this agent exerts a marked influence in controlling morbid excitability of the circulatory organs. It allays irritation, and determination of blood to the brain, indicated by flushed face, contracted pupils, irritability, and restlessness, a frequent condition in diseases incident to childhood. Its concentrated principle, Gelsemin, is an efficient remedy in bloody-flux or dysentery. It should be administered in very small doses to secure the best results. Only one-sixteenth to one-eighth of a grain is required, repeated every two hours. It should be triturated with sugar of milk or with common white sugar, in the proportion of one grain to ten of sugar. *Dose*—Of tincture, from five to fifteen drops; of fluid extract, three to six drops; of Gelsemin, as a sedative, one-fourth to one-half grain.

STIMULANTS.

Stimulants are medicines which have the power of increasing the vital activity of the body. Some have a very transient action, while others are more permanent in effect.

Cayenne Pepper (*Capsicum Annuum*). Cayenne Pepper is a powerful stimulant. *Dose*—Of the powder, from one to six grains, administered in milk; of the tincture, from five to ten drops, largely diluted in milk or water.

Black Pepper (*Piper Nigrum*). Black Pepper is a warm, carminative stimulant. *Dose*—From five to fifteen grains; of the fluid extract, from ten to fifteen drops.

Prickly-ash (*Xanthoxylum Fraxineum*). Prickly-ash bark is a stimulant and tonic. The parts used are the bark and leaves. *Dose*—Of the fluid extract, from five to fifteen drops; of the tincture, ten to twenty drops; of the active principle, Xanthoxylin, one to two grains.

Fig. 138.

Prickly-ash.

Alcohol is a powerful stimulant. It is never used in its pure state in medicine, but when diluted forms a useful remedy in many diseases. It is generally employed in the form of whisky, gin, rum, brandy, and wine.

Ammonia is an excellent stimulant. *Dose*—Of the carbonate, from three to five grains; of the sesquicarbonate, from five to ten grains; this is the same as the carbonate, which has been exposed to the air and slacked (powdered hartshorn); of the aromatic spirit, from one-half to one teaspoonful. The Aqua Ammonia and Liquor Ammonia are of such variable strength that they are seldom employed internally, but may be applied externally and taken by inhalation.

Dr. Pierce's Compound Extract of Smartweed. This quickly diffusible stimulant and genial anodyne we have spoken of under the head of Anodynes. But its medicinal properties equally entitle it to a place and mention under the class of stimulants. As a stimulant it spurs the nervous system and arouses the circulatory forces. Congestion of the lungs, liver, bowels, or uterus, embarrasses the functions

of these organs. Frequently this congestive difficulty may be entirely obviated, and the circulation of the blood restored to the surface of the body, by the administration of a few doses of this pleasant remedy. Thus it often acts like magic in giving relief, promoting the circulation, and restoring the organs to their accustomed functional activity. Full directions accompany every bottle.

TONICS.

Tonics are remedies which moderately exalt the energies of all parts of the body, without causing any deviation of healthy function. While stimulants are transient in their influence, tonics are comparatively permanent.

White Poplar (*Liriodendron Tulipfera*), called also American Poplar, or White Wood. The part used is the inner bark. This is a mild but valuable tonic for domestic use. *Dose*—Of the infusion, from one-half to one ounce; of tincture, from one to two teaspoonfuls.

Fig. 139.

White Poplar.

Chamomile (*Anthemis Nobilis*). The part used is the flowers. This is a mild, unirritating tonic. *Dose*—Of infusion (one-fourth ounce of flowers to a pint of water) one-half to one ounce.

Gentian (*Gentiana Lutea*). The root is the part used. This is a favorite domestic tonic in many localities. *Dose*—Of powdered root, five to ten grains; of the tincture, ten to twenty drops; of the fluid extract, five to ten drops, four or five times a day.

Nux Vomica (*Strychnos Nux Vomica*), or Dog Button. This is a powerful tonic. It increases innervation and is particularly valuable in cases marked by feeble circulation and general impairment of muscular power. In overdoses it is poisonous, and hence must be employed with much caution. *Dose*—Of the tincture, three to five drops; of the fluid extract, one to three drops.

Willow (*Salix Alba*). Willow is a tonic and an astringent. *Dose*—Of the decoction, from one to two fluid ounces; of the concentrated principle, Salicin, from two to four grains.

Dogwood (*Cornus Florida*). Dogwood, also known as Boxwood, is tonic, astringent, and slightly stimulant. *Dose*—

Fig. 140.

Dogwood.

Of the solid extract, from three to five grains; of the infusion, from one to two ounces; of the fluid extract, from ten to twenty drops.

Wafer-ash (*Ptelea Trifoliata*), also called Swamp Dogwood. The bark is used. This is a pure, unirritating tonic. *Dose*—Of tincture, one-half to one teaspoonful; of fluid extract ten to twenty drops; of the infusion, one to two fluid ounces.

Golden Seal (*Hydrastis Canadensis*). Golden Seal is a powerful and most valuable tonic. It is a valuable local remedy when used as a general injection in leucorrhea. *Dose*—Of the

Fig. 141.

Golden Seal.

powder, from ten to thirty grains; of the tincture, from one-half to one fluid drachm; of the fluid extract, from ten to twenty drops; of the concentrated principle, Hydrastin, from two to three grains; of the muriate of hydrastia, from one-half to one grain.

American Colombo (*Frasera Carolinensis*). American Colombo is a simple tonic. *Dose*—Of the powdered root, from

Fig. 142.

American Colombo.

ten to fifteen grains; of the infusion one-half to one fluid ounce, three or four times a day; of the active principle, Fraserin, one to three grains.

Gold Thread (*Coptis Trifolia*). Gold Thread is a pure and powerful, bitter tonic, and is also efficacious as a wash for sore mouth or as a gargle. *Dose*—Of the decoction, from two

Fig. 143.

Gold Thread.

to six fluid drachms; of the tincture, from one-half to two teaspoonfuls; of fluid extract, from ten to twenty drops.

Iron (*Ferrum*). Different preparations of iron are frequently prescribed by physicians. They are particularly valuable in anæmic conditions of the system. The following are a few of the preparations of this metal most generally used:

Iron by Hydrogen (*Ferri Redactum*). *Dose*—One to two grains.

Carbonate of Iron (*Ferri Carbonas*). *Dose*—One to three grains.

Citrate of Iron (*Ferri Citras*). *Dose*—One to three grains.

Pyrophosphate of Iron (*Ferri Pyrophosphas*). *Dose*—One to three grains.

Tincture of Muriate of Iron (*Tinctura Ferri Chloridi*). *Dose*—Three to twenty drops.

Dr. Pierce's Favorite Prescription. The Favorite Prescription, in addition to those properties already described, likewise combines tonic properties. In consequence of the never ceasing activities of the bodily organs, the system requires support, something to permanently exalt its actions. In all cases of debility, the Favorite Prescription tranquilizes the nerves, tones up the organs and increases their vigor, and strengthens the system. Directions for use accompany every bottle.

Dr. Pierce's Golden Medical Discovery. In addition to the alterative properties combined in this compound, it possesses important tonic qualities. While the Favorite Prescription exerts a tonic influence upon the digestive and nutritive functions, the Golden Medical Discovery acts upon the excretory glands. Besides, it tends to retard unusual waste and expenditure. This latter remedy tones, sustains, and, at the same time regulates the functions. While increasing the discharge of noxious elements accumulated in the system, it promptly arrests the wastes arising from debility, and the unusual breaking down of the cells incident to quick decline. It stimulates the liver to secrete, changes the sallow complexion, and transforms the listless invalid into a vigorous and healthy being. At the same time, it checks the rapid disorganization of the tissues and their putrescent change, while it sustains the vital processes. It is, therefore, an indispensable remedy in the treatment of many diseases.

CHAPTER III.

BATHS AND MOTION AS REMEDIAL AGENTS.

The remedial effects of bathing are generally underrated. This want of appreciation is more often due to the improper manner in which it is performed than to an insufficiency of curative virtues. The term *bathing* not only implies a cleaning of the body or certain portions of it, but also the application of water in such a manner as to influence the nervous system, and regulate the functions of the secretory organs. Cleanliness, while it preserves health and promotes recovery, has reference only to the hygienic influences of water and not to its curative effects. There are several kinds of baths, the names of which indicate their character, manner of application, or the part of the body to which they are applied. Among others, we have Cold, Cool, Temperate, Tepid, Warm, Hot, Hot Air, Russian, Turkish, Vapor, Electric, Sea, Shower, Sponge, Douche, Foot, Sitz, Head, Medicated, Alkaline, Acid, Iodine, and Sulphur Baths. Temperature influences the properties of any bath; thus the sponge, sitz, and alkaline baths may be employed warm or cold, according to the effect desired.

The Cold Bath, used at a temperature of from 30° to 60° Fahr., is powerfully sedative, and is employed for its tonic effects. If the vital powers are low, or the individual remains in it too long (two or three minutes should be the limit), the reaction is slow and its effects injurious. While it is highly invigorating to robust persons, those who have a low standard of vitality should be cautious in its employment. A local bath

may be followed by beneficial results, when a general bath would be inadmissible. For these reasons we advise the general use of the

Cool Bath, at a temperature of from 60° to 75° Fahr. If, in any instance, the *reaction* is *slow*, we recommend the

Temperate Bath, at a temperature of from 75° to 80° Fahr. The time of remaining in the bath should be regulated by the strength of the invalid. As a rule, it should not exceed three *minutes*, and the colder the water the less time should the patient be immersed. Immediately after emerging from any bath, the body should be thoroughly dried and rubbed with a moderately coarse towel until a glow is experienced and reaction is fully established. The attempt to toughen children by exposing them to low temperatures of either air or water, cannot be too emphatically condemned. This caution, however, does not apply to the employment of moderately cool water for ablutions. The cold or cool bath should be taken in the early part of the day, but *never during digestion.* Whenever reaction does not follow bathing, artificial means must be resorted to, as stimulating drinks, dry warmth, or exercise.

The Tepid Bath, the temperature of which is from 85° to 92° Fahr., is generally used for cleansing the body. It is prescribed in fevers and inflammatory affections for its cooling effects. It is usually medicated with some acid or alkali. The latter unites with the oily secretion of the skin and forms a soapy compound easily removed by the water. The temperature should be regulated according to the vitality of the patient, and the bath may be repeated two or three times a day. It removes superfluous heat, and keeps the skin in a condition favorable for excretion.

The Warm Bath, at a temperature varying from 92° to 98° Fahr., is always agreeable and refreshing. It equalizes the circulation and softens the skin, by removing all impurities. It moderates pain and soothes the whole system. It does not weaken or debilitate the person, but is in every way beneficial. It is an efficient, remedial agent in many chronic diseases, convulsions, spasmodic affections of the bowels, rupture, rheumatism, and derangement of the urino-genital organs. It should be employed immediately before going to bed unless

urgent symptoms demand it at other times. It may be medicated or not, as circumstances require, but should always be taken in a warm room.

The Hot Bath at a temperature of from 98° to 110° Fahr. is a powerful stimulant. It excites the nerves, and through them the entire system. It causes a sense of heat and a constriction of the secretory organs; but perspiration, languor, and torpor soon follow. In the sudden retrocession of cutaneous diseases, it restores the eruptions to the surface and gives speedy relief. The hot bath may be applied locally when circumstances require.

The Russian Bath consists in the application of hot vapor, at a temperature varying from 112° to 200° Fahr. The patient is first subjected to a moderately warm temperature, which is gradually increased as he becomes inured to it, the head being surrounded with cloths wet in cold water. Upon emerging from it, the bather is plunged into cold water or receives a cool, shower bath. In rheumatic and cutaneous diseases, chronic inflammations, and nervous affections, the Russian bath is an effective remedy.

The Turkish Bath is a dry, hot-air bath. The bather passes from one apartment to another, each one being of a higher temperature than the preceding. He undergoes a thorough shampooing, and, although the person may be scrupulously clean, he will be astonished at the amount of effete matter removed by this process. The bather then returns through the various apartments, and, upon emerging from that of the lowest temperature, he experiences a delightful sensation of vigor and elasticity.

As a hygienic agent, the hot-air bath has been constantly growing in favor. Its value is now recognized by all physicians throughout the world. The judicious use of the Turkish bath serves to secure perfect equalization of the circulation. Glandular activity is increased, elasticity and power given to the muscles, and a permanent, stimulating and tonic influence imparted to the system, a condition at once conducive to the enjoyment and prolongation of life. Dr. Erasmus Wilson, of England, says, in a paper read before the London Medical Association: "The inhabitant of a large city would live as

healthy, immured within city walls, as amid the fields and meadows of the country. His bath would be to him in the place of a country house or horse — it would give him air, exercise, freshness, health, and life."

"The bath that cleanses the inward as well as the outward man; that is applicable to every age; that is adapted to make health healthier, and alleviate disease, whatever its stage or severity, deserves to be adopted as a national institution, and merits the advocacy of all medical men; of those whose especial duty it is to teach how health may be preserved, and how disease may be averted."

The hot, *dry* atmosphere of the Turkish bath promotes rapid evaporation from the surface of the body, and it is well known that rapid evaporation from the surface is a cooling process. A person's finger may be frozen in one minute's time, by throwing upon it a constant, fine spray of rhigolene or sulphuric ether. The rapid evaporation of the light fluid congeals the liquids of the tissues and a film of ice is rapidly formed upon the part. In a less intense degree the same cooling process is carried on over the whole surface of a person, when in the hot room, or *sudatorium*, of the Turkish bath. The evaporation from the surface is so rapid that one can hardly appreciate the profuseness of the perspiration going on. The evaporation from the surface so rapidly carries off the heat from the body that one finds himself able, with little or no inconvenience, to remain in a room heated to from 180° to 200° or even 220° Fahr.

As a hygienic measure to be regularly or occasionally employed by persons in fair health, the Turkish or hot dry-air bath is far superior to the Russian or vapor-bath. (1.) It produces more profuse perspiration, and is therefore more depurating, or cleansing, in its effects. (2.) It does not relax the system, but rather produces a tonic effect, and fewer precautions are, therefore, necessary to guard against taking cold after employing it. (3.) The Turkish bath can be better ventilated than the Russian. While the air is heated to a high temperature, it can be readily kept pure by constant changes. In the Turkish hot-rooms, or *sudatorium*, of the Invalids' Hotel and Surgical Institute, provision is made for bringing underneath the floors a current of fresh air from without. This column of

fresh air is carried under the centre of each room where it escapes from the conductor, is warmed, and rises into the room, from which extraction of air is constantly going on through registers opening into tubes, communicating with large ventilated shafts which are kept hot, summer and winter, to insure a draught through them. In this manner, thorough ventilation of our Turkish hot-rooms is insured.

The Turkish bath not only combines a most agreeable luxury with a decidedly invigorating and tonic influence, but also, by its stimulating power, induces proper glandular and cellular activity, producing a healthy condition.

Sallowness, tan, and freckles, the result of local or general increase of the pigment granules of the skin, soon disappear under the stimulating influence and regular use of the Turkish bath, which causes rapid development of new and transparent cells. The colored granules are thus gradually replaced and the skin assumes a beautiful clearness and purity of appearance, which transcends immeasurably the unhealthy hue that follows the frequent employment of the various cosmetics.

The value of an agent which thus improves the general health, insures immunity from coughs, colds, and other diseases, and at the same time produces a healthy and permanent beauty of complexion, is at once apparent. The purity of person, perfect circulation, increase of healthy nutrition and glandular activity produced by the Turkish bath, serve to make it of the most lasting utility.

The eminent Dr. Madden has said, and his experience is confirmed by every regular patron of the bath, that, "Wherever the Turkish bath was a national institution the hair of the women was peculiarly luxurious and beautiful. I can vouch for it that the use of the bath rendered the complexion more delicate and brilliant; that the eyes became clearer and brighter; all the personal charms were enhanced. I can recommend no hygienic measure more beneficial or effectual in preserving the health and an attractive personal appearance."

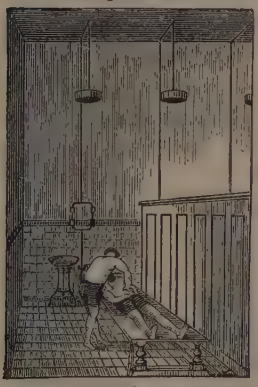
Pimples, blotches, eruptions, and other disfigurations of the skin are removed by the frequent use of the Turkish bath, leaving the integument smooth and soft.

How the Turkish Bath is Administered at the Invalid's Hotel and Surgical Institute. The hot-rooms, of which there are two, are exactly similar in every respect except as regards temperature. The first room has a temperature of from 110° to 120° Fahr. The bather is supplied by the attendant every few minutes with copious draughts of cool water. Gradually the relaxing influence of the elevated temperature manifests itself. The capillaries slowly dilate, the veins enlarge under its gentle stimulus, and small points of perspiration appear upon the surface, which assumes a slight, rosy blush. A delightful calm, a feeling of perfect rest and luxurious ease is imparted to the senses. From this room, after an appropriate interval, the bather enters the second room, in which the atmosphere is higher by from 20° to 30°, and it may be made still higher, its regulation requiring but an instant.

Fig. 144.

First Hot-room of the Turkish Bath.

Fig. 145.



One of the Shampooing-rooms.

A thorough sweating occurs while the subject remains in these rooms, during a period of from ten to forty minutes. The secretions of the skin, at first impure and loaded with the *débris* of dead cells and extraneous matter, gradually become purer, and clearer, until, finally, all trace of color disappears and the pearly drops of sweat come full and free. Soon the attendant appears and leads the

way to the shampooing-room, where, lying upon a warm marble slab, *massage* is applied most thoroughly to every portion of the body.

By the *massage*, shampooing, or rubbing, the superficial veins are thoroughly emptied of their contents, the muscles are given elasticity and tone, and glandular activity is promoted. Innumerable dead epithelial cells, together with other impurities, are rolled off in flakes under the skillful manipulation of the attendant.

After a thorough shampooing, the shower bath is applied, to secure a contraction of the capillaries and a diminution of the perspiration.

The Spirit Vapor-bath is very effective when employed in the earlier stages of acute, febrile, inflammatory, and painful diseases. In many forms of chronic diseases the administration of a spirit vapor-bath once in from three to fifteen days, is a valuable adjunct to the treatment of these affections. It exerts an exceedingly beneficial influence upon the entire system, and, when habitually employed, may ward off disease

The body should be moistened with an alkaline solution before the administration of a spirit vapor-bath. After the perspiration which it occasions has subsided, which will usually be in from three to four hours, sponge the body with a mixture of the following ingredients: water, three gills; alcohol, one gill; salt, one teaspoonful. By this method the patient experiences none of the unpleasant effects which generally follow the employment of diaphoretics. Various kinds of apparatus have been devised to facilitate the application of the spirit vapor-baths. Most of them are cumbersome and expensive, and, consequently, are seldom used except in hospitals or sanitariums.

The following method described by Dr. J. King, may be advantageously employed.

"The patient is undressed, ready for getting into bed, having removed the clothing worn through the day and put on a night shirt or other clothing to be worn while sweating, and during the night, if the bath is taken at bed-time. He is then seated on a high Windsor or wooden-bottomed chair, or instead thereof, a bench or board may be placed on a common open-bottomed chair, care being taken that the bottom is so covered

that the flame will not burn him. After seating himself, a large coverlet or blanket is thrown around him from behind, covering the back of his head and body, as well as the chair, and another must be passed around him in front, which last is to be pinned at the neck, loosely, so that he can raise it and cover his face, or remove it down from the face from time to time as occasion demands during the operation of the bath. The blankets must reach down to the floor, and cover each other at the side, so as to retain the vapor. This having been done, a saucer or tin vessel, into which is put one or two tablespoonfuls of whisky, brandy, alcohol, or any liquor that will burn, is then placed upon the floor, directly under the centre of the bottom of the chair, raising a part of the blanket from behind to place it there; then light a piece of paper, apply the flame to the liquor, and as soon as it kindles let down the part of the blanket which has been raised, and allow the liquor to burn until it is consumed, watching it from time to time to see that the blankets are not burned. As soon as consumed, put more liquor into the saucer, about as much as before, and again set it on fire, being careful to put no liquor into the saucer while the flame exists, as there would be danger of setting fire to the blanket, and producing injury to the patient. Continue this until the patient perspires freely, which, in a majority of cases, will be in five or ten minutes."

"If, during the operation, the patient feels faint or thirsty, cold water must be sprinkled or dashed in his face, or he may drink one or two swallows of it,—and in some cases the head may be bathed with cold water. As soon as free perspiration is produced, wrap the blankets around him, place him in bed, and cover him up warm, giving him about a pint of either some good store tea, ginger, or some diaphoretic herb tea to drink, as warm as he can take it. After two or three hours, remove the covering, piece by piece, at intervals of twenty or twenty-five minutes each, that he may gradually cease perspiring."

The above method may be improved by using an ordinary hoop skirt, ten to twelve inches below the bottom of which is suspended a larger and stronger hoop. The upper and smaller hoops should rest upon the patient's shoulders. A woolen blanket, large enough to reach and rest upon the floor, and

envelop the whole person, is thrown over the hoops. Unless the bath is employed to diminish the quantity of fluids in the body (as in dropsy), the patient may drink some simple, diaphoretic infusion, to hasten or facilitate perspiration. When he perspires freely, small quantities of cold water may be frequently given. "There is little or no danger of taking cold after this process, if ordinary precaution is observed, and it is easy, agreeable, safe, and effectual."

"Occasionally we will meet with patients, upon whom it is almost impossible to produce the slightest moisture, much less perspiration. The skin of such persons is generally dry and harsh, communicating an unpleasant sensation to the touch. In most instances the skin may be restored to its normal condition, by adopting the following course: 1st. Anoint the whole surface of the body and limbs with olive oil every night upon retiring to bed. 2nd. Every morning wash the whole surface with a warm, weak, alkaline solution, employing considerable friction while drying. 3rd. Every two weeks administer a spirit vapor-bath. A perseverance in this course for a few months will accomplish the desired result."

Frequent reference to spirit vapor-baths will be made by the author of this work, in speaking of those diseases in which its employment will prove beneficial.

Sea Bathing is an excellent, remedial agent in chronic disorders, particularly in those of an atonic character, such as nervous prostration, dyspepsia, and general debility.

Much of the benefit attributed to this mode of bathing is undoubtedly due to other influences, such as pure air, exercise, change of scenery, diet, and associations which surround the patient during his sojourn at the sea-shore.

At first, the duration of a sea-bath should not exceed three or five minutes, but it may be gradually prolonged to fifteen or twenty minutes. If the patient is very feeble, one or two baths a week are sufficient, and the most robust person should never take more than one a day. They should always be taken in the earlier portion of the day, before breakfast if possible, and *never during digestion.*

Before entering this bath, a moderate degree of exercise should always be taken, enough to arouse the vital energies, but

not to produce fatigue. Suitably dressed, the patient plunges into the water, in which he remains during the prescribed time. Immediately after emerging from the bath, the patient should be thoroughly dried and dressed and then moderate exercise should be taken to induce reaction. If the reaction is slow, a mild stimulant may be taken and the duration of the bath must be diminished the next time. When sea-bathing is beneficial improvement is soon manifested. The blood becomes richer, the whole system is strengthened and the functions are performed with more regularity. To the rich, sea-bathing is a luxury, but it is a remedy beyond the reach of the poorer classes unless they live near the sea-shore.

The Shower Bath produces a shock to the nervous system by suddenly coming in contact with the skin. Numerous streams of cold water fall upon the neck, shoulders, and body of the patient who stands beneath the hose or reservoir. When the patient is plethoric, feeble, or nervous, or when some internal organ is diseased, the cold, shower bath should *not* be employed. In simple debility unaccompanied by inflammation or symptoms of internal congestion, its use proves advantageous. By moderating the force of the shower, and substituting tepid water, the most delicate persons can endure it and profit thereby. The usual means for inducing a good reaction, friction, and exercise, should be employed.

The Douche Bath consists of a stream of water, dashed or thrown upon the patient from a moderate heighth or distance, with considerable force. The size, temperature, and force of the stream may be modified to suit the exigencies of the case. It is locally employed as a remedy for sprains, weak or stiff joints, old swellings, etc. The cold, douche bath is more powerful than the shower bath and should be given with the same precautions which govern the application of the latter.

The Sponge Bath admits of extensive employment in both acute and chronic diseases, and its simplicity renders it of untold value. It consists in a general or local application of water (medicated or not) at any desired temperature. The quantity may be great or small to suit the requirements of the case. If it is applied in acute diseases at a temperature agreeable to the patient, it is exceedingly grateful and may be

repeated as often as necessary. It may be rendered alkaline by the addition of some compound of soda, in the proportion of a teaspoonful to a quart of water. A portion of the body may be bathed at a time, and quickly dried, thus avoiding any exposure to cold. It removes excessive animal heat, relaxes the capillaries, equalizes the circulation, and produces comfort, tranquility, and sleep.

Nothing is more conducive to the health and comfort of laboring men in summer than a daily bath, and it is a matter of regret that there are so few conveniences for the purpose in most homes, especially those in the country. Farmers in particular need bathing facilities, and yet in most cases they are almost entirely without them. For their benefit we will describe a device which we can recommend to all who want a cheap, convenient, and easily managed apparatus for sponge bathing in the bed-room.

The articles required are a piece of rubber-cloth a yard and a quarter square, four slats, two inches wide and three feet long, notched at the ends so as to lock together in the form of a square, and a large sponge. The slats are placed upon the floor and the rubber cloth is spread over them (there is no need of fastening it to the slats), forming a shallow square vessel a yard wide. In this the bather stands and applies the water with a sponge from a basin or bowl on a stand placed conveniently near. There need be no danger of wetting the carpet, or spoiling the furniture.

When the bath is finished, gather three corners of the rubber cloth in the left hand, take the fourth corner in the right in such a way as to form a spout when lifted or held over the slop-jar or bucket. The water may be poured out in a moment, when the cloth should be spread over the back of a chair to dry, and the slats unlocked and set away in a closet.

The Foot Bath is frequently employed, as a means of causing diaphoresis, in colds, attacks of acute diseases, and also to draw the blood from the head or some internal organ. It is a powerful auxiliary in the treatment of those chronic diseases in which inflammation, congestion, and a feeble circulation are prominent symptoms. The water should be as hot as it can be borne, and the temperature kept up by additions of hot water.

It may be made stimulating by the addition of salt, mustard, ginger, or cayenne pepper.

The Sitz Bath. A tub is so arranged that the patient can sit down in it while bathing. In this manner the lower part of the abdomen, hips, and upper part of the thighs, are immersed in whatever fluid the bath is composed of. It is applicable in diseases of the pelvic organs, and may be hot, warm, cool, cold, or medicated, according to the effect desired.

The bath tub should be large enough to permit a thorough rubbing and kneading of the diseased parts, and the patient may remain in it from ten to thirty minutes. The clothing may be wholly or partially removed, as agreeable to the individual. A *warm*, sitz bath is an effective, remedial adjunct in menstrual suppression and in painful menstruation, gravel, spasmodic and acute inflammatory affections generally. The *cold*, sitz bath is used as a tonic in cases of relaxed tissues of the pelvis, in debility of the urino-genital organs, in piles, prolapsus of the rectum, and in constipation.

The Head Bath. A shallow basin contains the fluid for the bath; and the patient, assuming a recumbent position, immerses a portion of the head, generally the back part. The temperature may be warm, cool, or cold, as desired.

Medicated Baths are infusions of vegetable or other substances in water. They are sometimes applied with the sponge, though generally the patient is immersed. The temperature at which they are usually employed is that of the tepid bath. The nature and strength of the medication depends upon the character of the disease for which it is employed.

The Alkaline Bath is prepared by dissolving half a pound of carbonate of soda in sixty gallons of water. It is useful in those diseases in which the fluids of the body are abnormally acid, as in rheumatism.

The Acid Bath is prepared by adding two pounds of muriatic or hydrochloric acid to sixty gallons of water. A much smaller quantity of the acid is sometimes used, and in some instances vinegar is substituted.

Scott's Acid Bath is composed of nitro-muriatic acid (aqua regia) and water. It should be prepared in a wooden tub, and a sufficient quantity of acid used to give the water a sour taste.

It is extensively used in India as a remedy for disorders of the liver.

The Iodine Bath is composed of the following ingredients: tincture of iodine, two drachms; iodide of potassium, four drachms; water, forty gallons. It should be prepared in a wooden tub. It reddens the skin. For children, a much weaker solution must be employed. Its use is generally restricted to scrofulous and tubercular affections.

The Sulphur Bath is prepared by dissolving eight ounces of sulphuret of potassium and two ounces of dilute sulphuric acid in sixty gallons of water. The acid may be omitted.

A Sulphur Vapor-bath is often employed in cities where the necessary apparatus can be procured. It may be improvised by placing sulphur on a shovel over hot coals. The patient should be prepared as in the spirit vapor-bath, and burning sulphur substituted for the liquor. The patient is then enveloped in the fumes of sulphurous oxide. Heating a mixture of sulphur and sulphuric acid, produces the same result. If the gas is inhaled in large quantities it causes irritation of the respiratory passages, and suffocation. It is therefore necessary that the coverings should be securely fastened at the neck, and that the room be one which can be quickly filled with pure air This bath is used in cutaneous, rheumatic, and syphilitic disorders.

Fomentations consist of the general or local application of woolen cloths wrung out of hot water. They should not be so light as to be ineffectual, nor so heavy as to be burdensome. They should not be wet enough to drip, nor applied so as to expose the body to the surrounding air. A fresh cloth should be ready for application before the first one is removed, and the change quickly effected. Fomentations are effectual in relieving congestion and inflammation.

The Wet Sheet Pack. As this remedial appliance will be frequently recommended in the pages following, its mode of application is here described. Take a pail half filled with cold water, gather together one end of a common cotton sheet, and immerse it, allowing it to remain while preparing the bed, which may be done as follows: remove all the bed-clothes except a coverlet and the pillows, then spread upon it, in

the following order, two ordinary comforters, one woolen blanket, one woolen sheet, (or two woolen sheets if a woolen blanket is not at hand); then wring out one-half or two-thirds of the water from the wet sheet, spread it smoothly upon the blanket, and the patient being undressed, places himself on the sheet, with his arms extended, while an assistant wraps him closely and tightly with it, as quickly as possible. Each arm may be thus covered by the wet sheet, or may lie outside of it, and be covered by wet towels, prepared in the same manner as the sheet. Then quickly and tightly cover with the blankets and comforters, tucking snugly from head to foot. The head should also be covered with a wet towel, and a bottle of warm water placed to the feet, or near enough to keep them warm.

After the first shock of the chill is over, the pack is very pleasant and refreshing, and the patient should go to sleep, if possible. The ordinary time for a patient to remain in a pack is about sixty minutes. Thirty or forty minutes is sufficient, if he is in a feeble condition. Never wring the sheet out of warm water, for one of its principal benefits comes from the vigorous reaction induced by its cold temperature. After remaining in the pack from thirty to sixty minutes, allow the patient to stand on his feet, if he is able, and have the whole surface of his body bathed. Rub briskly, and dry with towels, or by throwing over the body a dry sheet and then rubbing him. The dry sheet retains the bodily warmth and is more comfortable, but interferes with the completeness and vigor of the rubbing of the body. Be sure and establish full reaction, which may be known by the warmth of the surface. Frequently, when the patient is released from the pack, and is being bathed, rolls of scales, scurf, and *skin-debris* come off, thus giving palpable evidence of the utility of the pack in freeing the myriads of pores of the skin of effete matter. It is efficient in fevers, and for breaking up colds, and is a very valuable, remedial agent in most chronic diseases, assisting in removing causes which depress the bodily functions.

MOTION AS A REMEDIAL AGENT.

The stability of the planetary system depends upon the concerted motion of its parts. So in the human system, motion

is a fundamental principle which underlies every vital process. Health consists in normal, functional activity. The human system is the arena of various kinds of motions, both of fluids and of solids, and life and health depend upon these physiological movements. There are the movements incident to *respiration*, the expansion and contraction of the walls of the chest, bringing the oxygen of the air into contact with the blood as it circulates through the lungs. Corresponding with the movements of the chest are the *motions of the abdominal walls*, which promote the functions of the organs of the abdominal cavity.

There are *motions of the heart and arteries*, which urge the blood out to the extremities and diffuse it through every part of the system, and also *motion of the blood in the capillaries*, by which the blood is circulated through the tissues, that the latter may be built up from its nutritive constituents. Then there is the *motion of the vital current* in the veins returning towards the heart, and urged forward by the muscular and pump-like action of the chest and abdominal walls. The peristaltic *motions of the stomach and bowels* urge onward digesting materials, exposing them successively to different solvents and aiding the absorption of nutritive matter. No less essential to life and health are numerous other minute operations or *motions*, on which vital power in all its manifestations of muscular and nervous energy depends. Many other *motions* are consequent upon decay, growth, and repair. Oxygen, carbonic acid, watery vapors, and other gaseous matter are constantly being exchanged between the system and atmosphere. Then, the human system being a complex, chemical laboratory, there are *motions consequent upon chemical action*, constantly going on within it.

Muscular motion, under the direction of the will, is also absolutely necessary for the maintenance of good health.

Animal heat and muscular and nervous power are dependent upon motions of the minutest particles composing the body. The body is composed of fluid and semi-fluid matter, permitting great freedom of motion. Health requires that there shall be *a constant change of place*, an active transmission of material to and from vital organs and parts, through the medium of

blood-vessels, as well as outside such vessels · that is, motion of interstitial fluids.

Nature's Mode of Sustaining Health. The act of transforming latent, non-vital force which exists pent-up in food, as heat is in coal, into vital energy, requires the simultaneous elimination from the system of a like amount of worn-out matter. Assimilation of nutritive materials is impossible, unless a like amount of matter be eliminated from the system. Muscular and nervous energy are dependent upon activities which cause waste. Not only is this true in a general way, but it is also true that the energy produced by the operations of the vital system has a strict relation to the wasting products—that *full* energy is only attained by *perfected* waste. Use, waste, and power, then, sustain definite and dependent or corresponding relations, since waste is as essential to health as is supply.

Without waste, disturbance is at once produced in the system similar to that resulting from the introduction of foreign matter. These disturbances constitute disease. The more obvious effects of lack of waste and elimination are mechanical. The circulation is loaded with effete and useless matter, the vessels being thereby weakened and distended, and the circulation retarded. The capillaries become clogged and vital action is diminished. Local congestions, inflammations, effusions, morbid growths, and other pathological results follow.

Deranged or suppressed action characterizes, and, indeed, constitutes all departures from health which we call disease. Suffering indicates action, but action which is perverted into wrong channels, or action in one part at the expense of motion in other parts, constituting a disturbance in the equilibrium of forces, from which the system suffers.

Value of Mechanical Movements and Manipulations for the Treatment of Chronic Diseases. To correct and restore deranged movements, thereby producing normal, functional activity of every organ and part of the system, must therefore be the chief object of the physician. All remedies, of whatever school or nature, imply motion, and depend for their efficacy upon their ability to excite motion in some one or more elements, organs, or parts of the system.

While we do not wish to detract from the real merits of medicine as a curative agent, yet we must admit that the remedial power of motion, transmitted either manually or mechanically, is founded upon rational and physiological principles. All systems of medicine, however much they may differ superficially, propose, as the chief end to be attained by the administration of medicine, or by other treatment, that *motions* identical with physiological activity should be incited or promoted. How best to accomplish this result, and with least cost to vitality, is an important consideration. Bearing in mind the conservation of forces, that energy or power is as indestructible as matter, that it may be changed into other forms but never lost, it is plain that mechanical force may be applied to the living system and transformed into vital energy; that chemical action, animal heat, and magnetism may represent in the system the mechanical force transmitted to the body. Keeping in view the transformable nature of force, and the need that our systems have of auxiliary power in different departments, when normal activity is impaired by disease, we can readily understand how undoubted, curative effects result from either the manual or the mechanical administration of motion.

Rubbing is a process universally employed by physicians of every school for the relief of a great diversity of distressing symptoms, is instinctively resorted to by sympathizers and attendants upon the sick, and constitutes one of the chief duties of the nurse. Uncivilized people resort to this process as their principal remedy in all forms of disease.

The difficulty in administering motion as a remedial agent by manual effort, such as rubbing, kneading, oscillating, flexing, and extending the limbs, lies in the impossibility of supplying the *amount*, *intensity*, and *variety* of movement required to make it most effective. The power of the arm and the strength of the operator are exhausted before the desired effect is produced. Inventive genius has at last overcome the obstacles to the successful and perfect administration of motion as a curative agent. We have now a series of machines propelled by mechanical power, by the use of which we rub, knead, manipulate, and apply in succession a great variety of movements to all parts of the body. These machines transmit motion to

the body from inexhaustible sources, never tire, but are ever ready for new, remedial conquests. The movements administered by their use, *while entirely under the control of the patient,* are never disagreeable, and are far more rapid and intense than can possibly be given by the hands. By the application of short, quick movements of from *twelve to fifteen hundred vibrations a minute*, deep-seated organs and parts are reached, to which motion is transmitted and in which vital energy is thereby generated. The hands have not the power, by kneading, manipulating, or rubbing to impress the system except in a very mild degree, and deep-seated organs and parts are scarcely influenced by the comparatively slow movements thus administered. Among the most important, mechanical inventions devised for administering motion as a remedial agent, is one which has received the name of the *manipulator.*

The Manipulator. With this machine motion can be applied to any organ or part of the system, and intensity of the application regulated to a nicety. The rapidity of motion necessary to produce active exhilaration of any part of the body is easily secured by the use of the manipulator, but is far beyond the power of the hands. The degree of circulation given to the fluids, both inside and outside of the vessels, and of energy imparted to the organs and parts operated upon by the manipulator, is also unapproachable by the application of manual power.

Effects Upon the Circulation and Nutrition. The influence of motion on these functions is as follows: The contents of the blood-vessels are moved onward by the pressure and motion transmitted by the manipulator, all backward movement of the blood being prevented by the valves of the veins and by the propelling power of the heart and arteries. Fluids outside these vessels pass through their walls, to take the place of the stagnant blood that has been moved onward. Other blood flows into the part, and thus active and healthy circulation is induced, and nutritive material, capable of affording vital support is also brought to refresh the local part.

We have found mechanical movements especially effectual in paralysis, neuralgia, sleeplessness, and other nervous affections; in derangements of the liver, constipation, and dyspepsia; in

displacements of the uterus, and congestion, and inflammation of the pelvic organs.

For a complete description of the mechanical movements and the machinery employed in the treatment of diseases at the Invalids' Hotel and Surgical Institute, the reader is referred to the appendix to this work.

CHAPTER IV.

HYGIENIC TREATMENT OF THE SICK.

There are two essentials requisite to the successful treatment of the sick: (1.) Medical skill; (2.) Good nursing. The former is necessary in order that the condition of the patient be fully understood, and the proper means be employed to effect his recovery. The latter is essential, in order that all influences favoring the production and development of disease may be removed, the tendencies to restoration be promoted by every possible means, and the directions of the physician be properly observed.

Success in the treatment of the sick requires good nursing. Without it, the most skillful physicians fail to effect a cure; with it, the most unqualified may succeed. If certain hygienic agencies are essential to the maintenance of health, how much more necessary it is that they be employed in sickness! If certain conditions cause disease, how great the necessity is that such conditions be obviated and hygienic ones substituted!

Notwithstanding the importance of good nursing, in the rural districts it is frequently difficult to find a professional nurse, or, if one can be obtained, it is often impossible for the invalid to procure such services, on account of the expense which must necessarily be incurred. Hence, this office usually devolves upon some relative who is considered to be the best qualified for the position; or, as is often the case, necessity demands that the patient be left to a change of nurses. A woman is generally selected for this important position. Her

soft hand and soothing voice, her kindly, sympathetic, and provident nature, together with her scrupulous cleanliness, render her man's equal, if not his superior, in the capacity of nurse. There are circumstances, however, in which the services of a man are indispensable; hence the necessity that all should be qualified to care for the sick.

A nurse should be attentive to the requirements of physician and patient, for she sustains an intimate relation to both. She should observe the directions of the physician, and faithfully perform them. She should note all the symptoms of the patient, and do everything in her power to promote comfort and recovery. She should anticipate the wishes, and not cause the patient to ask for everything which is desired. So far as practicable, let the wishes be gratified. The senses of the sick often become morbidly acute, and those things which in health would pass unnoticed, in sickness are so magnified as to occasion annoyance and vexation. Sick persons are not all alike, and the peculiarities of each must be studied separately. The nurse must be *kind*, but *firm*, and not yield to such whims of the patient as may be detrimental to recovery; neither must she arouse dislike or anger by opposition, but endeavor to *win* the patient from all delusions. The feelings of the patient should never be trifled with, for idealities become realities.

The nurse should possess an inexhaustible store of patience. Disease affects the mind of the patient and fills it with strange delusions. The sick are often querulous, fretful, and unreasonable, and should be treated with kindness, forbearance, and sympathy. The nurse should always be cheerful, look on the bright side of every circumstance, animate them with encouragement, and inspire them with hope. Hope is one of the best of tonics. It stimulates the flagging, vital energies, and imparts new life to the weak and exhausted forces. Gloom, sadness, and despondency depress the vital forces and lead to death. We have seen patients rapidly sinking, who had given up all hope, and were quietly awaiting the coming of death, snatched, as it were, from its grasp, and restored to health, by words of cheer and encouragement.

The nurse should possess *moral principles*, which alone can

win the confidence of the patient. She should have judgment, circumspection, intelligence, forethought, alacrity, carefulness, and neatness. In a word she should exercise *common sense.*

We deem it but justice to say a word in behalf of the nurse. She, too, is a human being, subject to disease, and, unless hygienic conditions be observed, will soon be stricken low by its presence. She must be relieved occasionally and get rest, or she cannot long withstand the combined influence of fatigue and disease. Her office is an arduous one at best, and the long, weary hours of night-watching should be compensated by exercise in the open air, as well as by sleep during the day. Unless this be done, the system will become exhausted, and sleep will intrude itself upon her at the time when the greatest diligence is required for the welfare of the patient, when the vital powers are at their lowest ebb. She should be supplied with plenty of suitable food during the night, to sustain her and to serve as a safeguard against the invasion of disease. She should be treated with kindness and respect, else her disposition may become morose and reflect itself upon the patient, causing peevishness and despondency.

The Sick-room should be as comfortable, cheerful, and pleasant, as circumstances will allow. Let the room be large and airy, and furnished with a stove, or better still, a fireplace. All articles of clothing and furniture, not necessary to the comfort of the patient, should be removed from the room, and in *malignant* or *contagious* diseases the carpets, even, should not be permitted to remain. The surroundings beget happiness or gloom, in proportion as they are pleasant or disagreeable. A tidy attendant, a few flowers and books, wonderfully enhance the cheerfulness of the room. Permit no unnecessary accumulation of bottles, or any thing that can in any way render the room unpleasant. Medicines, drink, or nourishment should never be left uncovered in the sick-room, since they quickly absorb the gaseous emanations from the patient, and become unfit for the purpose which they were intended to serve. Their presence gives the room an untidy appearance, suggestive of filth and slovenliness, and imparts to the patient a feeling of loathing and disgust for articles of diet.

The Bed should not be of feathers, on account of their

undue warmth, which causes a sensation of languor throughout the system. A husk or sea-grass mattress, or even a straw bed, covered with a cotton quilt, is far preferable. The bedding should be changed frequently. It is better that the bed should be away from the wall, so as to admit of greater freedom of movement about it.

Pure Air. The air in the sick-room should be kept as pure as possible. That which is so necessary in health, is indispensable in sickness. The importance, therefore, of a perfect and free ventilation of the sick-room cannot be too thoroughly impressed; and yet to properly secure this end, may call forth a considerable amount of ingenuity on the part of the nurse. A window should be open, but the current of air must not be allowed to blow directly upon the patient. One window may be raised from the bottom and another lowered from the top. This will permit the entrance of pure air from without, and the exit of the vitiated air from within. The patient, if sufficiently covered in bed, is not liable to take cold from a proper ventilation of the room. Especially is this true, when the bodily temperature is raised by febrile or inflammatory affections. The *temperature* of a room is no indication of the *purity* of the air. It is a prevalent, but mistaken notion, that when a room is cold, the air must be pure. Cold air is as readily contaminated with impurities as warm air, therefore, it is not sufficient that the room be kept cool, but the air should be frequently changed. During convalescence, great care is necessary to protect the patient from taking cold. Air which is admitted into the sick-room should not be contaminated by passing over foul drains, privies, or other sources of infection, since, instead of invigorating, it depresses the physical forces and generates disease.

Light is as necessary to health as is pure air. Banish either for any continuous period of time, and serious results follow. The strong, robust man, when deprived of light, soon degenerates into a feeble, sickly being, and finally dies.

According to the investigations of the Massachusetts Medical Society, it was found that absence of sunlight, together with moisture, not only favor the development of tubercular consumption, but act as an exciting cause. It is well known that

persons living in shaded dwellings often suffer from forms of disease which resist all treatment until proper admission of light is secured.

The physician to the Emperor of Russia found upon examination that patients confined in well lighted wards, were four times as liable to recover as were those in poorly lighted rooms. Children reared away from the sunlight are apt to be deformed and idiotic, while those partially deformed have been restored by being admitted to the light.

Patients sometimes wish to have their rooms darkened, because the light is painful to their weak and sensitive eyes. It is far better to shade the eyes and admit the sunlight into the room, since its rays cause chemical changes to take place, which favor the return of health. Many invalids can ascribe their recovery to the influence of a sun bath. There are, however, conditions in which the patients should be screened from the light. In such cases a little arrangement of the curtains or shutters will accomplish all that is to be desired.

Patients convalescing from acute, or suffering from chronic diseases, should receive the influence of light in the open air, and be in it several hours every day. Light and pure air stimulate a healthful development, induce cheerfulness, hope, and recovery, while darkness begets gloom, sadness, despondency, disease, and ultimately death.

Warmth is essential to the well-being of the patient, and it is necessary that a proper temperature be maintained in the room. Except in very warm weather, a little fire should be kept in the room, and at the same time fresh air should be admitted from without, and a uniform temperature thus preserved. This arrangement is especially necessary in localities where great variations in temperature are experienced during the day and night.

The normal temperature of the body ranges from 98° to 99° Fahr. The minimum occurs from 2 to 6 A. M.; the maximum, from 1 to 6 P. M. The deviation of a few degrees from this standard indicates disease, and the greater the deviation, the greater is its severity. During the early stages of acute diseases, the animal heat is generally increased, and should be allayed by bathing, and cooling or acidulated drinks. In the

latter stages, the temperature becomes diminished and the condition of the system is favorable to congestions, which are most likely to occur between the hours of 2 and 6 A. M., when the vital powers are lowest. The patient then becomes feeble, his extremities grow cold, and he has what is termed a "sinking spell," and perhaps dies. It is during these hours that additional covering, the application of hot bricks to the feet, and bottles of hot water to the limbs and body, friction upon the surface, stimulating drinks, and increased vigilance on the part of the nurse will often save the patient's life. But, unfortunately, at these hours the nurse is apt to get sleepy and inattentive, the demands of the patient go unheeded, and a sacrifice of life is the result.

Persons suffering from chronic diseases, or those in feeble health, should preserve their vital energies by dressing warmly, by wearing flannels next to the skin, and by carefully protecting the feet from cold and moisture.

Cleanliness cannot be too thoroughly impressed upon the minds of those who have the care of the sick. Filthiness is productive of disease and favorable to its development. Bathing at least once a day, with pure, soft water and toilet-soap, is strongly urged, and as this is designed for cleanliness, the temperature of the bath should be made agreeable to the patient.

The Clothing and Bedding of the Patient in acute diseases, should be changed frequently and thoroughly aired, if not washed. As soon as removed, these articles should be taken from the room, replaced by others *well aired and warmed.* The hands and face of the patient should be bathed frequently, the hair combed, the teeth brushed, the nails cleaned, the lips moistened, and everything about him kept clean and tidy. These observances, although in themselves trifling, promote comfort and cheerfulness, and contribute largely to the recovery of the sick. All excretions from the patient should be buried, and not committed to privies to communicate disease to those who frequent them.

The Diet contains a very important relation to health. During the process of acute disease, the appetite is generally much impaired, if not entirely absent. It should then be the study of the nurse to devise such articles of nourishment as will

be acceptable to the patient and suitable to the condition. The food should be light, nutritious, and easy of digestion.

Each individual disease requires a diet adapted to its peculiarities. Those of an inflammatory character require an unstimulating diet, as gruel, barley-water, toast, etc. An exhausted or enfeebled condition of the brain, unattended by irritability, demands a stimulating diet, as beef, eggs, fish, Graham bread, oysters, etc. In wasting diseases, in which the temperature of the system is low, beef, fatty substances, rich milk, sweet cream, and other carbonaceous articles of diet are recommended. In the various forms of chronic ailments, the diet must be varied according to the nature of the disease and the peculiarities of the patient. Deranged digestion is generally an accompaniment of chronic disease. A return to normal digestion should be encouraged by selecting appropriate articles of food, paying due regard to its quantity and quality, as well as to the manner and time of eating. The appearance of food, and the manner in which it is offered, have much to do with its acceptance, or rejection by the patient. Let the nourishment be presented in a nice, clean dish, of a size and shape appropriate to the quantity. More food than can be eaten by the patient should not be placed before him at one time, since a great quantity excites disgust and loathing. In taking nourishment, drink, or medicine, the patient, if feeble, should not be obliged to change his position.

Milk is one of the most important foods in fevers and acute diseases attended with great prostration, and in which the digestive powers are enfeebled. It contains within itself all the elements of nutrition.

Beef Tea furnishes an excellent nourishment for the sick, but there are few, even among professional nurses who know how to properly prepare it. We give three good recipes. One method is to chip up lean beef, put it in a porcelain or tin saucepan, cover it with *cold* water, and bring it up to just below the boiling point, at which temperature *retain it* for ten minutes, then season and serve. Another method is similar to the foregoing, with this difference, that the juices of the meat are squeezed through a piece of muslin or crash, making the tea richer. Another way, which we consider preferable to

either of the above, is to take lean beef, cut it into fine bits, put them in a tightly covered vessel, which is placed in a kettle of water kept boiling. Thus the whole strength of the juice will be obtained from the meat without losing any of its properties. It can be seasoned to the taste, and reduced with water to suit the needs of the patient.

Sleep is "Nature's grand restorer, a balm to all mankind; the best comforter of that sad heart whom fortune's spite assails." It is necessary in health, and doubly so in sickness. During sleep, the vital energies recuperate, the forces are less rapidly expended, and the strength increases. It is the great source of rest and refreshment. Often a day's rest in bed, free from the cares and anxieties of an active life, is sufficient to ward off the approach of disease. If quiet and rest are essential to recuperation in health, their necessity in disease must be apparent. Life frequently depends on tranquility and repose, and the least noise or confusion disturbs the sufferer and diminishes the chances of recovery. Nothing annoys sick or nervous persons more than whispering and the rustling of newspapers. If conversation be necessary, let the tones be modified, but never whisper. In sickness, when the vital forces are low, the more natural rest and sleep the patient obtains, the greater is the prospect for recovery. As a rule, *a patient should never be awakened when sleeping quietly;* not even to take *medicine*, unless in *extreme cases.* If the patient does not sleep, the cause should be ascertained and the appropriate remedies employed; if it arise from rush of blood to the head, cooling lotions should be applied, and warmth to the feet; if, from restlessness or general irritability, a sponge bath, followed by friction should be administered; if the wakefulness is due to noise or confusion, quiet is the remedy. When these means fail, anodynes, or nervines, should be employed. Lying on the side instead of on the back should be practiced. Patients afflicted with chronic diseases, on rising, should take a cold bath, dry the surface quickly with a coarse towel, followed by friction with the hand. Great benefit may be derived by following these suggestions when the nature of the disease is not such as to forbid it.

Exercise and rest necessarily alternate with each other.

Exercise, so necessary to health, in many forms of disease greatly contributes to recovery. It sends the sluggish blood coursing through the veins and arteries with increased force and rapidity, so that it reaches every part of the system, supplying it with nourishment. It increases the waste of old material and creates a demand for new.

Convalescing patients, or those suffering from chronic diseases, whenever the weather will permit, should take exercise every day in the open air. This should be done with regularity. The amount of exercise must be regulated by the strength of the patient; never take so much as to produce fatigue, but, as the strength increases, the exercise may be increased proportionately. Some interesting employment, commensurate with the patient's strength, should be instituted, so that the mind may be agreeably occupied with the body.

When unable to take active exercise, the invalid, properly protected by sufficient clothing, should ride in a carriage or boat, and each day a new route should be chosen, so that a change of scenery may be observed, thus arousing new trains of thought, which will be exhilarating and prove beneficial to him.

Sexual Influences. During the progress of disease or convalescence, entire continence must be observed. It is then necessary that all of the vital energies should be employed in effecting a recovery from disease, without having the additional tax imposed of overcoming the debilitating effects of sexual expenditure. This holds true with regard to all diseases, and especially those of the nervous system and genito-urinary organs.

Visiting the Sick may be productive of good or evil results. Mental impressions made upon the sick exert a powerful influence upon the termination of disease. The chances of recovery are in proportion to the elevation or depression of spirits. Pleasant, cheerful associations animate the patient, inspire hope, arouse the vital energies, and aid in his recovery; while disagreeable and melancholy associations beget sadness and despondency, discourage the patient, depress the vital powers, enfeeble the body, and retard recovery.

Unless persons who visit the sick can carry with them joy,

hope, mirth, and animation, they had better stay away. This applies equally in acute and chronic diseases. It does not matter what a visitor may *think* with regard to the patient's recovery, *an unfavorable opinion should never find expression in the sick-room.* Life hangs upon a brittle thread, and often that frail support is *hope.* Cheer the sick by words of encouragement, and the hold on life will be strengthened; discourage, by uttering such expressions as, "How bad you look!" "Why, how you have failed since I saw you last!" "I would have another doctor; one who knows something!" "You can't live long if you don't get help!" etc., and the tie which binds them to earth is snapped asunder. The visitor becomes a *murderer!* Let all persons be guided by this rule: *Never go into the sick-room without carrying with you a few rays of sunshine!*

If the patient is very weak the visitor may injure him by staying too long. The length of the visit should be graduated according to the strength of the invalid. Never let the sufferer be wearied by too frequent or too lengthy visits, nor by having too many visitors at once. Above all things, do not confine your visitations to Sunday. Many do this and give themselves credit for an extra amount of piety on account of it, when, if they would scrutinize their motives more carefully, they would see that it was but a contemptible resort to save time. The sick are often grossly neglected during the week only to be visited to death upon Sunday.

The use of Tobacco and Opium. The recovery of the sick is often delayed, sometimes entirely prevented, by the habitual use of tobacco or opium. In acute diseases, the appetite for tobacco is usually destroyed by the force of the disease, and its use is, of necessity, discontinued; but in chronic ailments, the appetite remains unchanged, and the patient continues his indulgence greatly to the aggravation of the malady.

The use of tobacco is a pernicious habit in whatever form it is introduced into the system. Its active principle, Nicotin, which is an energetic poison, exerts its specific effect on the nervous system, tending to stimulate it to an unnatural degree of activity, the final result of which is weakness, or even

paralysis. The horse, under the action of whip and spur, may exhibit great spirit and rapid movements, but urge him beyond his strength with these agents, and you inflict a lasting injury. Withhold the stimulants, and the drooping head and moping pace indicate the sad reaction which has taken place. This illustrates the evils of habitually exciting the nerves by the use of tobacco, opium, narcotic or other drugs. Under their action, the tone of the system is greatly impaired, and it responds more feebly to the influence of curative agents. Tobacco itself, when its use becomes habitual and excessive, gives rise to the most unpleasant and dangerous pathological conditions. Oppressive torpor, weakness or loss of intellect, softening of the brain, paralysis, nervous debility, dyspepsia, functional derangement of the heart, and diseases of the liver and kidneys are not uncommon consequences of the excessive employment of this plant. A sense of faintness, nausea, giddiness, dryness of the throat, tremblings, feelings of fear, disquietude, and general nervous prostration must frequently warn persons addicted to this habit that they are sapping the very foundation of health. Under the continued operation of a poison, inducing such symptoms as these, what chance is there for remedies to accomplish their specific action? With the system already thoroughly charged with an influence antagonistic to their own, and which is sure to neutralize their effect, what good can medicine do?

Dr. King says, "A patient under treatment should give up the use of tobacco, or his physician should assume no responsibility in his case, further than to do the best he can for him." In our own extensive experience in the treatment of chronic diseases, we have often found it necessary to resort to the same restriction.

The opium habit, to which allusion has also been made, is open to the same objections, and must be abandoned by all who would seek recovery.

PART IV.

DISEASES AND THEIR REMEDIAL TREATMENT.

INTRODUCTION.

Knowledge which is conducive to self-preservation is of *primary* importance. That great educator, profound thinker, and vigorous writer, Herbert Spencer, has pertinently said that, "As vigorous health and its accompanying high spirits, are larger elements of happiness than any other things whatever, the teaching how to maintain them is a teaching that yields to no other whatever. And therefore we assert that such a course of physiology as is needful for the comprehension of its general truths and their bearings on daily conduct is an all-essential part of a rational education."

Believing that the diffusion of knowledge for the prevention of disease is quite as noble a work as the alleviation of physical suffering by medical skill, we have devoted a large portion of this volume to the subjects of physiology and hygiene. These we have endeavored to present in as familiar a style as possible, that they may be understood by every reader. Freely as we have received light upon these subjects have we endeavored to reflect it again, in hopes that a popular presentation of these matters made plain and easy of comprehension to all people, may lead the masses into greater enjoyment of life—the result of a better preservation of health. This we do in part as a public acknowledgment of our obligations to society, to whom every professional man is a debtor. He belongs to it, is a part of its common stock, and should give as well as receive

advantages, return as well as accept benefits. We know of no better way to signify our appreciation of the public confidence and patronage, so generously accorded to us, than to offer this volume to the people at a price less than the actual cost for an edition of ordinary size. This we do as a token of the cordial reciprocation of their good will. In giving to the people wholesome advice, by which they may be enabled to ward off disease and thus preserve the health of multitudes, we believe we shall receive their hearty approval, as well as the approbation of our own conscience, both of which are certainly munificent rewards. We believe that good deeds are always rewarded, and that the physician who prevents sickness manifests a genuine and earnest devotion to the common interests of humanity.

We have no respect for the motives of those medical men who would withhold that information from the people which will direct the masses how to take care of themselves, and thereby prevent much sickness and suffering. Nor is the diffusion of such knowledge antagonistic to the best interests of the true and competent physician. The necessity for his invaluable services can no more be set aside by popularizing physiological, hygienic, and medical truths, than we can dispense with those of the minister and lawyer by the inculcation of the principles of morality in our public schools. The common schools do not lessen the necessity for colleges or universities, but rather contribute to their prosperity. Nor are we so presumptuous as to anticipate that we could possibly make this volume so instructive as to render "every man his own physician." No man can with advantage be his own lawyer, carpenter, tailor, and printer; much less can he hope to artfully repair his own constitution when shattered by grave maladies, which not only impair the physical functions, but weaken and derange the mental faculties. What physician presumes to prescribe for himself, when suddenly prostrated by serious illness? He very sensibly submits to the treatment of another, because he realizes that sickness impairs his judgment, and morbid sensations mislead and unfit him for the exercise of his skill. If this is true of the physician, with how much greater force does it apply to the unprofessional! If a sick sea-captain is unfit to stand at the helm and direct his ship, how utterly incompetent

must the raw sailor be when similarly disqualified! Nor is the physician as competent to treat those near and dear to him, when they are suffering from dangerous illness, as another medical man not similarly situated, whose judgment is not liable to be misled by intense anxiety and affectionate sympathy.

Notwithstanding all these facts, however, a knowledge on the part of the unprofessional, of something more than physiology and hygiene, and appertaining more closely to medicine proper, will many times prove valuable.

In the first stage of many acute affections which, if unheeded, gradually assume a threatening aspect, endangering life and demanding the services of the most skilled physician to avert fatal results, the early administration of some common domestic remedy, such as a cathartic, or a diaphoretic herb, associated with a warm bath, a spirit vapor-bath, or a hot foot-bath, will very often obviate the necessity for calling a family physician, and frequently save days and weeks of sickness and suffering.

So, likewise, are there numerous, acute diseases of a milder character which are easily and unmistakably recognized without the possession of great medical knowledge, and which readily yield to plain, simple, medical treatment which is within the ready reach of all who strive to acquaint themselves with the rudiments of medical science. But in sudden and painful attacks of acute disease, life may be suddenly and unexpectedly jeopardized, and immediate relief prove necessary. While under these circumstances the prompt application of such domestic treatment as good common-sense may dictate, guided by a knowledge of those first principles of medical learning which we shall hereafter endeavor to make plain, may result in speedy and happy relief, yet at the same time there should be no delay in summoning a competent physician to the bedside of the sufferer.

Then, and not the least important, there are the various chronic or lingering diseases, from all of which few individuals indeed, who pass the meridian of life, entirely escape. In this class of ailments there is generally no immediate danger, and, therefore, time may be taken by the invalid for studying his disease and employing those remedies which are best suited for its removal.

Or, if of a dangerous or complicated character, and, therefore, not so readily understood, he may consult either personally or by letter, some learned and well-known physician, who makes a specialty of the treatment of such cases, and whose large experience enables him to excel therein.

In consideration, therefore, of the foregoing facts, we deem it most profitable for our readers that Part Fourth of this volume should be arranged in the following manner:

The milder forms of uncomplicated, acute diseases, which may be readily and unmistakably recognized, and successfully managed without professional aid, will receive that attention which is necessary to give the reader a correct idea of them, and their proper remedial treatment.

We shall devote only such attention to the severe and hazardous forms of acute diseases as is necessary in order to consider their initial stage, with their proper treatment, not attempting to trace their numerous complications, or portray the many pathological conditions which are liable to be developed. For, even by devoting much space to the latter, we could not expect to qualify our unprofessional readers for successfully treating such obscure and dangerous conditions.

We shall devote the largest amount of space to a careful and thorough consideration of those chronic diseases, which, by a little study, may be readily recognized and understood by the masses, and for the cure of which we shall suggest such hygienic treatment and domestic remedies as may be safely employed by all who are in quest of relief. In the more dangerous, obscure, or complicated forms of chronic diseases, the correct diagnosis and successful treatment of which tax all the skill possessed by the experienced specialist, the invalid will not be misled into the dangerous policy of relying upon his own judgment and treatment, but will be counseled not to postpone until too late, the employment of a skillful physician.

The apportionment of space which is made in considering the various diseases and their different stages, as well as the course which the people are advised to pursue under the different circumstances of affliction, is not always in accordance with the plans and recommendations which have been made by others who have written works on domestic medicine. Most of these

authors have attempted, by lengthy disquisitions, to teach their readers how to treat themselves without the services of a physician, even in the most hazardous forms of disease. In such dangerous maladies as typhoid, typhus, yellow, and scarlet fevers, typhoid pneumonia, and many others, in which life is imminently imperiled, such instruction and advice is decidedly reprehensible, as it may lead to the most serious consequences. We are confident, therefore, that the manner of disposing of the different subjects which are discussed in the succeeding chapters, and the course of action which is advised, will commend themselves to our readers as being such as are calculated to promote and subserve their best interests.

MEDICAL DIAGNOSIS.

Skill in the art of healing is indicated in three ways: (1.) by ascertaining the *symptoms*, *seat*, and *nature* of the disease, which is termed *diagnosis;* (2.) by foretelling the probable termination, which is termed *prognosis;* (3.) by the employment of efficacious and appropriate remedies, which is called *treatment.* Of these three requisites to a prosperous issue, nothing so distinguishes the expert and accomplished physician from the mere pretender as his ready ability to interpret correctly, the location, extent, and character of an affection from its symptoms. By medical diagnosis, then, is understood the discrimination between diseases by certain symptoms which are distinguishing signs. Every malady is accompanied by its characteristic indications, some of which are *diagnostic, i. e.,* they particularize the affection and distinguish it from all others.

Medical diagnosis is both a *science* and an *art;* a science when the causes and symptoms of a disease are understood, and an art when this knowledge can be applied to determine its location and exact nature. Science presents the general principles of practice; art detects among the characteristic symptoms the differential signs, and applies the remedy. Da Costa aptly remarks: "No one aspiring to become a skillful observer can trust exclusively to the light reflected from the writings of others; he must carry the torch in his own hands, and himself look into every recess."

The critical investigation of symptoms, with the view of

ascertaining their signs, is essential to successful practice. Without closely observing them, we cannot accurately trace out the diagnosis, and a failure to detect the right disease is apt to be followed by the use of wrong medicines.

General diagnosis considers the surroundings of the patient as well as the actual manifestations of the disease. It takes into account the diathesis, *i. e.*, the predisposition to certain diseases in consequence of peculiarities of constitution. We recognize constitutional tendencies, which may be indicated by the contour of the body, its growth, stature, and temperament, since all these facts greatly modify the treatment. Likewise the sex, age, climate, habits, occupation, previous diseases, as well as the present condition, must be taken into account.

Auscultation, as practiced in detecting disease, consists in listening to the sounds which can be heard in the chest.

Percussion consists in striking upon a part with the view of appreciating the sound which results. The part may be struck directly with the tips of the fingers, but more generally one or more fingers of the other hand are interposed between the points of the fingers and the part to be percussed, that they, instead of the naked chest, may receive the blow; or, instead of the fingers, a flat piece of bone or ivory, called a *plexímeter*, is placed upon the chest to receive the blow.

Latterly, improved instruments greatly assist the practitioner of medicine in perfecting this art. The *microscope* assists the eye, and helps to reveal the appearance and character of the excretions, detecting morbid degenerations; *chemistry* discloses the composition of the urine, which also indicates the morbid alterations occurring in the system; by percussion we can determine the condition of an internal organ, from the sound given when the external surface is percussed; the ear, with the aid of the *stethoscope*, detects the strange murmurs of respiration, the fainter, more unnatural pulsations of life, and the obscurer workings of disease; with the *spirometer* we determine the breathing capacity of the lungs, and thus ascertain the extent of the inroads made by disease; the *dynamometer* records the lifting ability of the patient; the *thermometer* indicates the morbid variation in the bodily temperature; various instruments

inform us of the structural changes causing alterations in the specific gravity of fluids, *e. g.*, the *urinometer* indicates those occurring in the urine; and thus, as the facilities for correct diagnosis increase, the art of distinguishing and classifying diseases becomes more perfect, and their treatment more certain. While physiology treats of all the natural functions, pathology treats of lesions and altered conditions.

Fig. 146.

Dr. Brown's Spirometer.

By the term *symptoms* we mean the evidence of some morbid effect or change occurring in the human body, and it requires close observation and well-instructed experience to convert these symptoms into diagnostic signs. Suppose "Old Probabilities" (as we commonly designate the invaluable Signal Department) hangs out his warning tokens all along our lake borders and ocean coasts; our sailors behold the fluttering symbols indicating an approaching storm, but if no one understood their meaning, a fearful disaster might follow. But if these signals are understood, a safe harbor is sought and the mariner is protected. So disease may hang out all her signals of distress, in order that they may be seen, but unless correctly interpreted, and a remedial harbor is sought, these symptoms are of little practical value.

Undoubtedly the reason why so many symptom-doctors blunder is because they prescribe according to the apparent symptoms, without any real reference to the nature of the affection. They fail to discover how far a symptom points out the seat, and also the progress of a disease. They do not distinguish the relative importance of the different symptoms. The practical purpose of all science is to skillfully apply knowledge to salutary and profitable uses. The patient himself may carefully note the indications, but it is only the expert physician who can tell the import of each symptom.

Symptoms are within every one's observation, but only the physician knows the nature and value of *signs*. We have read an anecdote of Galen, who was a distinguished physician in his day, which illustrates the distinction between sign and symptom. Once, when dangerously ill, he overheard two of his friends in attendance upon him recount his symptoms, such as "Redness of the face, a dejected, haggard, and inflamed appearance," etc. He cried out to them to adopt every necessary measure forthwith, as he was threatened with delirium. The two friends saw the *symptoms* well enough; but it was only Galen himself, though the *patient*, who was able to deduce the *sign* of delirium—that is, he alone was able to translate those symptoms into signs. To determine the value of symptoms, as signs of disease, requires close observation.

INTERPRETATION OF SYMPTOMS.

We shall refer to a few symptoms which any unprofessional reader may readily observe and understand.

Position of Patient. When a patient is disposed to lie upon his back continually during the progress of an acute disease, it is a sign of *muscular debility*. If he manifests no desire to change his position, or cannot do so, and becomes tremulous at the least effort, it indicates *general prostration*. When this position is assumed, during the progress of continued fever, and is accompanied by involuntary twitching of the muscles, picking of the bed-clothes, etc., then danger is imminent and *the patient is sinking*. Fever, resulting from local inflammation, does not produce muscular prostration, and the patient seldom or never assumes the supine position. If this inflammation is in the extremities, those parts are elevated, in order to lessen the pressure of the blood, which a dependent position increases.

For example, let us change the scene, and introduce a patient with head and shoulders elevated, who prefers to sit up, and who places his hands behind him and leans back, or leans forward resting his arms and head upon a chair. The next week he is worse, and no longer tries to lie in bed, but sits up all the time; note the anxious expression of countenance, the difficult or hurried breathing, the dry and hacking cough, and observe

that the least exertion increases the difficulty of respiration and causes palpitation of the heart. These plain symptoms signify thoracic effusion, the collection of water about the lungs.

The Countenance displays diagnostic symptoms of disease. In simple, acute fevers, the eyes and face are red and the respiration is hurried; but in acute, sympathetic fever, these signs are wanting. We cannot forget the pale, sharp, contracted, and pinched features of those patients whose nostrils contract and expand alternately with the acts of respiration. How hard it was for them to breathe. The contraction and expansion of the nostrils indicate active congestion of the lungs.

As a general rule, chronic inflammation of the stomach, duodenum, liver, and adjacent organs, imparts a gloomy expression to the countenance, at the same time the eye is dull, the skin dusky or yellow, and the motions are slow. But in lung diseases, the spirits are buoyant, the skin is fair, and the cheeks flushed with fever and distinctly circumscribed with white, for delicacy and contrast, almost exceed the hues of health in beauty. Note, too, the pearly lustre and sparkling light of the eye, the quivering motion of the lips and chin, all signs of pulmonary disease.

The Story of Sexual Abuse is plainly told by the downcast countenance, the inability to look a person fairly in the face, the peculiar lifting of the upper lip and the furtive glance of the eye. The state of the mind and of the nervous system corroborates this evidence, for there seems to be a desire to escape from conversation and to elude society. The mind seems engrossed and abstracted, the individual appears absorbed in a constant meditation, he is forgetful and loses nearly all interest in the ordinary affairs of life. The whole appearance of a patient, suffering from spermatorrhea, is perfectly understood by the experienced physician, for the facial expressions, state of mind, and movements of the body, all unconsciously betray, and unitedly proclaim his condition.

Tongue. Much may be learned from the appearance, color, and form of the tongue, and the manner of its protrusion. If pale, moist, and coated white, it indicates a mild, febrile condition of the system. If coated in the center, and the sides

look raw, it indicates gastric irritation. If red and raw, or dry and cracked, it is a sign of inflammation of the mucous membrane of the stomach. If the inflammation is in the large intestine, the tip of the tongue presents a deep red color, while the middle is loaded with a dark brown coating. When the tongue is elongated and pointed, quickly protruded and withdrawn, it indicates irritation of the nerve-centers, as well as of the stomach and bowels. If tremulous, it denotes congestion and lack of functional ability; this may be observed in congestive fevers.

Pulse. Usually the pulse beats four times during one respiration, but both in health and disease its frequency may be accelerated or retarded. In adults, there are from sixty-five to seventy-five beats in a minute, and yet in a few instances we have found, in health, only forty pulsations per minute. But when the heart beats from one hundred and twenty to one hundred and forty times a minute, there is reason to apprehend danger, and the case should receive the careful attention of a physician.

Irregularity of the pulse may be caused by disease of the brain, heart, stomach, or liver; by the disordered condition of the nervous system; by lack of muscular nutrition, as in gout, rheumatism, or convulsions; by deficiency of the heart's effective power, when the pulse-wave does not reach the wrist, or when it intermits and then becomes more rapid in consequence of septic changes of the blood, as in diphtheria, erysipelas, and eruptive fevers.

Pain. The import of pain depends on its seat, intensity, nature, and duration. An acute, intense pain usually indicates inflammation of a nerve as well as the adjacent parts. Sharp, shooting, lancinating pains occur in inflammation of the serous tissues, as in pleurisy. A smarting, stinging pain attends inflammation of the mucous membrane. Acute pain is generally remittent and not fixed to one spot. Dull, heavy pain is more persistent, and is present in congestions, or when the substance of an organ is inflamed, and it often precedes hemorrhage. Burning pain characterizes violent inflammations involving the skin and subjacent cellular tissue, as in case of boils and carbuncles. Deep, perforating pain accompanies

inflammation of the bones, or of their enveloping membranes. Gnawing, biting, lancinating pain attends cancers.

The location of pain is not always at the seat of the disease. In hip-disease, the pain is not first felt in the hip, but in the knee-joint. In chronic inflammation of the liver, the pain is generally most severe in the right shoulder and arm. Disease of the kidneys occasionally produces numbness of the thigh and drawing up of the testicle, and commonly causes colicky pains. Inflammation of the meninges of the brain is often indicated by nausea and vomiting before attention is directed to the head. These illustrations are sufficient to show that pain often takes place in some part remote from the disease.

In chronic, abdominal affections, rheumatic fevers, gout, and syphilis, the entire system is thrown into a morbid state, the nervous system is disturbed, and wandering pains manifest themselves in different parts of the body. Fixed pain, which is increased by pressure, indicates inflammation. If it be due only to irritation, pressure will not increase it. Some rheumatic affections and neuralgia not only bear pressure, but the pain diminishes under it. Permanent pain shows that the structures of an organ are inflamed, while intermittent pain is a sign of neuralgia, gout, or rheumatism. Absence of pain in any disease, where ordinarily it should be present, is an unfavorable sign. Internal pain, after a favorable crisis, is a bad omen. Or, if pains cease suddenly without the other symptoms abating, the import is bad. If, however, pain and fever remit simultaneously and the secretions continue, it is a favorable sign.

A dull pain in the head indicates fullness of the blood-vessels from weakness, low blood, or general debility. It may be caused by taking cold, thus producing passive congestion of the brain. It may proceed from gastric disturbance, constipation of the bowels, or derangement of the liver. Heaviness of the head sometimes precedes inflammation of the brain, or chronic disease of its membranes. A dull, oppressive pain in the head indicates softening of the brain, and is generally accompanied by slowness of the pulse and of the speech. A pulsating pain of the head occurs in heart disease, hysteria, and frequently accompanies some forms of insanity.

The Eye indicates morbid changes and furnishes unmistakable signs of disease. Sinking of the eye indicates waste, as in consumption, diarrhea, and cholera. In fevers it is regarded as a fatal symptom. A dark or leaden circle around the eye, seen after hard work, indicates fatigue and overdoing. If the mucous covering of the inner surface of the lids and the ball of the eye is congested and inflamed, it exhibits redness, and may indicate congestion or even inflammation of the brain.

A dilated pupil is often observed in catarrhal consumption, congestion of the brain, low fevers, and chlorosis.

The pupil contracts in inflammation of the meninges, when there is increased sensibility and intolerance of light, also in spinal complaints. In some diseases the lustre of the eye increases, as in consumption. But if it decreases with the attack of violent disease, it indicates great debility and prostration.

Examination of the Urine. All medical authors and physicians of education, freely admit and even insist upon the importance of critically examining the patient's urine, in all cases in which there is reason to suspect disease of the kidneys or bladder. In chronic affections it is particularly serviceable, especially in derangements of the liver, blood, kidneys, bladder, prostate gland, and nervous system. Many scholarly physicians have sadly neglected the proper inspection of the urine, because they were afraid of being classed with the illiterate "uroscopian" doctors, or fanatical enthusiasts, who ignorantly pretend to diagnose correctly *all* diseases in this manner, thus subjecting themselves and their claims to ridicule. Nothing should deter one from giving to this excretion the attention it deserves.

The urine which is voided when the system is deranged or diseased is altered in its color and composition, showing that its ingredients vary greatly. So important an aid do examinations of the urine furnish in diagnosing many chronic ailments, that at the Invalids' Hotel and Surgical Institute, where many thousands of cases are annually treated, a chemical laboratory has been fitted up, and a skillful chemist is employed, who makes a specialty of examining the urine, both chemically and microscopically, and reporting the result to the attending physicians. His extended experience renders his services invaluable. With

his assistance, maladies which had hitherto baffled all efforts put forth to determine their true character, have frequently been quickly and unmistakably disclosed.

Microscopical Examination. This method of examination affords a quicker and more correct idea of a deposit or deposits than any other method. The expert, by simply looking at a specimen, can determine the character of the urine, whether blood, mucus, pus, uric acid, etc., are present or not. But when no deposit is present, then it is necessary to apply chemical tests, and in many cases the quantity of the suspected ingredient must be determined by analysis. As a detailed account of the various modifications which the urine undergoes in different diseases, would be of no practical use to the masses, since they could not avail themselves of the advantages which it would afford for correct diagnosis, except by the employment of a physician who does not ignore this aid in examining his patients, we shall omit all further details upon the subject. For the same reason we shall not often, in treating of the different diseases in which examinations of the urine furnish such valuable aid in forming a diagnosis, make mention of the changes which are likely to have occurred.

INFLAMMATION.

The term *Inflammation* signifies a state in which the infected part is hotter, redder, more congested, and more painful than is natural. Inflammation is limited to certain parts, while fever influences the system generally. Inflammation gives rise to new formations, morbid products, and lesions, or alterations of structure. The morbid products of fever, and its modification of fluids are carried away by the secretions and excretions.

The susceptibility of the body to inflammation may be *natural* or *acquired*. It is natural when it is constitutional; that is, when there is an original tendency of the animal economy to manifest itself in some form of inflammation. We may notice that some children are far more subject to boils, croups, and erysipelatous diseases than others. This susceptibility, when innate, may be lessened by careful medication, although it may never be wholly eradicated. When acquired, it is the result of the influence of habits of life, climate, and the state of mind over the constitution.

Phlegmonous inflammation is the active inflammation of the cellular membrane, one illustration of which is a common boil. The four principal symptoms are redness, swelling, heat, and pain; and then appears a conical, hard, circumscribed tumor, having its seat in the dermoid texture. At the end of an indefinite period, it becomes pointed, white or yellow, and discharges pus mixed with blood. When it breaks, a small, grayish, fibrous mass sometimes appears, which consists of dead, cellular tissue, and which is called the *core*.

There are certain morbid states of the constitution which lead to local inflammation, subsequent upon slight injury; or, in some cases, without any such provocation, as in gout, rheumatism, and scrofula. One of the first results of the inflammation, in such cases, is a weakening of the forces which distribute the blood to the surface and extremities of the body. It is generally admitted that in scrofulous persons the vascular system is weak, the vessels are small, and because nutrition is faulty, the blood is *imperfectly organized*. The result is failure in the system, for if nutrition fails, there may be lacking earthy matter for the bones, or the unctious secretions of the skin; the sebaceous secretion is albuminous and liable to become dry, producing inflammation of the parts which it ought to protect.

Disorder of the alimentary canal and other mucous surfaces are sometimes reflected upon the skin. We have occasionally observed cutaneous eruptions and erysipelas, when evidently they were distinct signs of internal disorder.

Inflammation may be internal as well as external, as inflammation of the brain, lungs, or stomach, and it is frequently the result of what is called a *cold*. No matter how the body is chilled, the blood retreats from the surface, which becomes pale and shrunken, there is also nervous uneasiness, and frequently a rigor, accompanied with chattering of the teeth. After the cold stage, reaction takes place and fever follows. The sudden change from a dry and heated room to a cool and moist atmosphere is liable to induce a cold. Riding in a carriage until the body is shivering, or sitting in a draft of air when one has been previously heated, or breathing a very cold air during the night when the body is warm, especially when not accustomed to doing so, or exposing the body to a low temperature when

insufficiently clothed, are all different ways of producing inflammation.

Inflammation may result in consequence of local injury, caused by a bruise, or by a sharp, cutting instrument, as a knife or an axe, or it may be caused by the puncture of a pin, pen-knife blade or a fork-tine, or from a lacerated wound, as from the bite of a dog, or from a very minute wound poisoned by the bite of a venomous reptile. Local inflammations may arise from scalds, burns, the application of caustics, arsenic, corrosive sublimate, cantharides, powerful acids, abrasions of the surface by injuries, and from the occurrence of accidents.

The *swelling* of the part may be caused by an increase of the quantity of blood in the vessels, the effusion of serum and coagulating lymph, and the interruption of absorption by the injury, or by the altered condition of the inflamed part.

The character of the *pain* depends upon the tissue involved, and upon the altered or unnatural state of the nerves. Ordinarily, tendon, ligament, cartilage, and bone are not very sensitive, but when inflamed they are exquisitely so.

The heat of the inflamed part is not so great, when measured by the thermometer, as might be supposed from the patient's sensations.

Termination of Inflammation. Inflammation ends in one of six different ways. Inflammation may terminate in *resolution*, *i. e.*, spontaneous recovery; by *suppuration*, in the formation of matter; by *effusion*, as the inflammation caused by a blister-plaster terminates by effusion of water; by *adhesion*, the part inflamed forming an attachment to some other part; by *induration*, hardening of the organ; or by *gangrene*, that is, death of the part.

Thus, inflammation of the lungs may terminate by recovery, that is, by resolution, by suppuration and raising of "matter," by hardening and solidification of the lung, or by gangrene. Inflammation of the endocardium, the lining membrane of the heart, may cause a thickening of it, and ossification of the valves of the heart, thus impairing its function. Inflammation of the pericardium may terminate in effusion, or dropsy, and inflammation of the liver may result in hardening and adhesion to adjacent parts.

GENERAL PRINCIPLES FOR TREATMENT OF INFLAMMATION.

Remove the exciting causes as far as practicable. If caused by a splinter or any foreign substance, it should be withdrawn, and if the injury is merely local, apply cold water to the parts to subdue the inflammation. If caused by a rabid animal, the wound should be enlarged and cupped, and the parts cleansed or destroyed by caustic. The patient should remain quiet and not be disturbed. The use of tincture of aconite internally, will be found excellent to prevent the rise of inflammation. A purgative is also advised, and four or five of Dr. Pierce's Pleasant Purgative Pellets will be sufficient to act upon the bowels. If there is pain, an anodyne and diaphoretic is proper. Dr. Pierce's Compound Extract of Smart-weed will fulfill this indication. In local inflammation cold water is a good remedy, yet sometimes hot water, or cloths wrung out of it, will be found to be the appropriate application. When the inflammation is located in an organ within a cavity, as the lungs, hot fomentations will be of great service. Bathing the surface with alkaline water must not be omitted. Whenever the inflammation is serious the family physician should be early summoned.

FEVER.

In fever all the functions are more or less deranged. In every considerable inflammation there is sympathetic fever, but in essential fevers there are generally fewer lesions of structure than in inflammation. Fever occasions great waste of the tissues of the body, and the refuse matter is carried away by the organs of secretion and excretion. The heat of the body in fever is generally diffused, the pulse is quicker, there is dullness, lassitude, chilliness, and disinclination to take food. We propose to give only a general outline of fevers, enough to indicate the principles which should be observed in domestic treatment.

Most fevers are distinctly marked by four stages: 1st, the forming stage; 2d, the cold stage; 3d, the hot stage; 4th, the sweating or declining stage. During the first stage the individual is hardly conscious of being ill, for the attack is so slight that it is hardly perceptible. True, as it progresses, there is a

feeling of languor, an indisposition to make any bodily or mental effort, and also a sense of soreness of the muscles, aching of the bones, chilliness, and a disposition to get near the fire. There is restlessness, disturbed sleep, bad dreams, lowness of spirits, all of which are characteristic of the formative stage of fever.

The next is the cold stage, when there is a decided manifestation of the disease, and the patient acknowledges that he is really sick. In typhus and typhoid fever the chills are slight; in other fevers they are more marked; while in ague they are often accompanied by uncontrollable shaking. When the chill is not so distinct the nails look blue and the skin appears shriveled, the eye is sunken and a dark circle circumscribes it, the lips are blue, and there is pain in the back. The pulse is frequent, small, and depressed, the capillary circulation feeble, the respiration increased, and there may be nausea and vomiting. These symptoms vary in duration from a few minutes to more than an hour. They gradually abate, reaction takes place, and the patient begins to throw off the bed-clothes.

Then follows the hot stage, for with the return of the circulation of the blood to the surface of the body, there is greater warmth, freer breathing, and a more comfortable and quiet condition of the system. The veins fill with blood, the countenance brightens, the cheeks are flushed, the intellect is more sprightly, and if the pulse is frequent, it is a good sign; if it sinks, it indicates feeble, vital force, and is not a good symptom. If there is considerable determination of blood to the head it becomes hot, the arteries of the neck pulsate strongly, and delirium may be expected. During the hot stage, if the fever runs high, the patient becomes restless, frequently changes his position, is wakeful, uneasy, and complains of pain in his limbs. In low grades, the sensibility is blunted, smell, taste, and hearing are impaired.

The patient in the hot stage is generally thirsty, and if he is allowed to drink much, it may result in nausea and vomiting. Moderate indulgence in water, however, is permissible. There is aversion to food, and if any is eaten, it remains undigested. The teeth are sometimes covered with dark *sordes* (foul accumulations) early in the fever, and the appearance of the tongue

varies, sometimes being coated a yellowish brown, sometimes red and dry, at other times thickly coated and white. The condition of the bowels varies from constipation to diarrhea, although sometimes they are quite regular. The urine is generally diminished in quantity, but shows higher color.

The sweating stage in some fevers is very marked, while in others there is very little moisture, but an evident decline of the hot stage, the skin becoming more natural and soft. The pulse is more compressible and less frequent, the kidneys act freely, respiration is natural, the pains subside, although there remains languor, lassitude, and weariness, a preternatural sensibility to cold, an easily excited pulse, and a pale and sickly aspect of the countenance. The appetite has failed and the powers of digestion are still impaired.

Domestic Management of Fevers. It is proper to make a thorough study of the early, insidious symptoms of fever, in order to understand what ought to be done. If it arises in consequence of malaria, the treatment must be suited to the case. If from irritation of the bowels and improper articles of diet, then a mild cathartic is required. If there is much inflammation, a severe chill, and strong reaction, then the treatment should be active. If the fever is of the congestive variety and the constitution is feeble, the reaction imperfect, a small, weak pulse, a tendency to fainting, a pale countenance, and great pain in the head, apply heat and administer diaphoretics, and procure the services of a good physician.

As a general rule, it is proper to administer a cathartic, unless in typhoid fever, and for this Dr. Pierce's Purgative Pellets answer the purpose, given in doses of from four to six, according to the state of the bowels. If these are not at hand, a tea of sage and senna may be drunk until it produces a purgative effect, or a dose of Rochelle salts taken. In nearly all fevers we have found that a weak, alkaline tea, made from the white ashes of hickory or maple wood, is useful, taken weak, three or four times daily, or if there be considerable thirst, more frequently. Some patients desire lemon juice, which enters the system as an alkali and answers all purposes.

Diaphoretic medicines are also indicated, and the use of Dr. Pierce's Extract of Smart-weed will prove very serviceable.

Drinking freely of pleurisy-root tea, or of a strong decoction of boneset is frequently useful. After free sweating has been established, then it is proper to follow by the use of diuretic teas, such as that of spearmint and pumpkin seed combined, or sweet spirits of nitre, in doses of twenty to thirty drops, added to a teaspoonful of the Extract of Smart-weed, diluted with sweetened water.

To lessen the frequency of the pulse, fluid extract or tincture of aconite or veratrum may be given in water, every hour. During the intermission of symptoms, tonic medicines and a sustaining course of treatment should be employed. If the tongue is loaded and the evacuations from the bowels are fetid, a solution of sulphite of soda is proper; or, take equal parts of brewer's yeast and water, mix, and when the yeast settles, give a tablespoonful of the water every hour, as an antiseptic. Administering a warm, alkaline hand-bath to a fever patient every day, is an excellent febrifuge remedy, being careful not to chill or induce fatigue. If there is pain in the head, apply mustard to the feet; if it is in the side, apply hot fomentations.

The symptoms which indicate danger are a tumid and hard abdomen, difficult breathing, offensive and profuse diarrhea, bloody urine, delirium, or insensibility. Favorable symptoms are a natural and soft state of the skin, eruptions on the surface, a natural expression of the countenance, moist tongue, free action of the kidneys, and regular sleep. If the domestic treatment which we have advised does not break the force of the disease and mitigate the urgency of the symptoms, it will be safer to employ a good physician, who will prescribe such a course of treatment as the case specially requires. It is our aim to indicate what may be done before the physician is called, for frequently his services cannot be obtained when they are most needed. Besides, if these attacks are early and properly treated with domestic remedies, it will often obviate the necessity of calling upon a physician. If, on the other hand, fevers are neglected and no treatment instituted, they become more serious in character and are more difficult to cure.

To recapitulate, our treatment recommends evacuation through nature's outlets, the skin, kidneys, and bowels, maintaining warmth, neutralizing acidity, using antiseptics, tonics,

and the hand-bath, and the fluid extract or tincture of aconite, or veratrum to moderate the pulse by controlling the accelerated and unequal circulation of the blood. It is a simple treatment, but if judiciously followed, it will often abort a fever, or materially modify its intensity and shorten its course.

FEVER AND AGUE. (Intermittent Fever.)

The description of fever already given applies well to this form of it, only the symptoms in the former stage are rather more distinct than in the other varieties. Weariness, lassitude, yawning, and stretching, a bitter taste in the mouth, nausea, loss of appetite, the uneasy state of the stomach and bowels are more marked in the premonitory stages of intermittent fevers. The cold stage commences with a chilliness of the extremities and back, the skin looks pale and shriveled, the blood recedes from the surface, respiration is hurried, the urine is limpid and pale, sometimes there is nausea and vomiting, and towards the conclusion of the stage, the chilly sensations are varied with flushes of heat. The hot stage is distinguished by the heat and dryness of the surface of the body and the redness of the face; there is great thirst, strong, full, and hard pulse, free and hurried respiration and increased pain in the head and back. The sweating stage commences by perspiration appearing upon the forehead, which slowly extends over the whole body, and soon there is an evident intermission of all the symptoms. In the inflammatory variety of intermittent fever, all these symptoms are acute, short, and characterized by strong reaction. Gastric fever, the most frequent variety of intermittent fever, is marked by irritation of the stomach and bowels, and a yellow appearance of the white of the eye.

Causes. The cause of the malarial fevers, intermittent, remittent, and congestive, is supposed to be *miasm*, a poisonous, gaseous exhalation from decaying vegetation, which is generally most abundant in swamps and marshes, and which is absorbed into the system through the lungs.

Treatment. During the entire paroxysm the patient should be kept in bed, and in the cold stage, covered with blankets and surrounded with bottles of hot water. The Compound Extract of Smart-weed should be administered in

some diaphoretic herb-tea. During the hot stage, the extra clothing and the bottles of hot water should be gradually removed and cold drinks taken instead of warm. During the sweating stage the patient should be left alone, but as soon as the perspiration ceases, from two to four of the Purgative Pellets should be administered, as a gentle cathartic. A second paroxysm should, if possible, be prevented. To accomplish this, during the intermission of symptoms, the Golden Medical Discovery should be taken in doses of from two to three teaspoonfuls every four hours in alternation with three-grain doses of the sulphate of quinine. If the attack is very severe, and is not relieved by this treatment, a physician should be summoned to attend the case.

REMITTENT FEVER. (Bilious Fever.)

The distinction between *intermittent* and *remittent* fever does not consist in a difference of origin. In the former disease there is a complete intermission of the symptoms, while in the latter there is only a remission.

Treatment. The treatment should consist in the employment of those remedial agents advised in intermittent fever, the Golden Medical Discovery and quinine being taken during the remission of symptoms. During the height of the fever, tincture of aconite may be given and an alkaline sponge-bath administered with advantage. As in intermittent fever, should the course of treatment here advised not promptly arrest the disease, the family physician should be summoned.

CONGESTIVE FEVER. (Pernicious Fever.)

This is the most severe and dangerous form of malarial fever. It may be either intermittent or remittent in character. In some instances the first paroxysm is so violent as to destroy life in a few hours, while in others it comes on insidiously, the first one or two paroxysms being comparatively mild. It is frequently characterized by stupor, delirium, a marble-like coldness of the surface, vomiting and purging, jaundice, or hemorrhage from the nose and bowels. In America this fever is only met with in the Mississippi valley, and in other localities where the air contains a large quantity of malarial poison.

Treatment. This fever is so dangerous that a physician should be summoned as soon as the disease is recognized. For the benefit of those who are unable to obtain medical attendance, we will say that the treatment should be much the same as in intermittent fever, but more energetic. Quinine should be taken in doses of from five to fifteen grains every two or three hours. If it be not retained by the stomach, the following mixture may be administered by injection: sulphate of quinine, one-half drachm; sulphuric acid, five drops; water, one ounce; dissolve, and then add two ounces of starch water.

CONTINUED FEVERS.

The symptoms of these fevers do not intermit and remit, but *continue* without any marked variation for a certain period. They are usually characterized by great prostration of the system, and are called *putrid* when they manifest septic changes in the fluids, and *malignant* when they speedily run to a fatal termination. *Typhoid* and *typhus* fevers belong to this class. We shall not advise treatment for these more grave disorders which should always, for the safety of the patient, be attended by the family physician, except to recommend some simple means which may be employed in the initial stage of the disease, or when a physician's services cannot be promptly secured.

TYPHOID FEVER. (Enteric Fever.)

In typhoid fever there is ulceration of the intestines and mesenteric glands. This diseased condition of the bowels distinguishes this fever from all others, and is readily detected by sensitiveness to pressure, especially over the lower part of the abdomen on the right side. The early disposition to diarrhea is another characteristic symptom of it, and there is also no intermission of symptoms as in intermittent fever. The disease comes on insidiously, with loss of appetite, headache, chilliness, and languor. It is usually a week or more before the disease becomes fully developed. This dangerous fever is clearly marked by all these distinguishing symptoms and its treatment should at once be confided to the family physician. The evacuations from the bowels should be thoroughly disinfected with chloride of lime or carbolic acid, that they may not convey the disease to others.

TYPHUS FEVER.

Typhus fever is an epidemic and contagious disease, and has seldom appeared in America, except in seaport towns. It has received many different names, such as "ship fever," "hospital fever," "jail fever," and "camp fever." In typhus fever the invasion is sudden and the disease runs a rapid course. It is usually ushered in with a short chill, followed by severe, frontal headache, and pain in the back and limbs, with great muscular weakness. No pain is experienced in the abdomen except over the liver. The bowels are constipated. The face is flushed, the eyes suffused, the countenance dull, and, as the disease progresses, the cheeks assume a dusky hue. Between the fifth and eighth days, dirty, pink-colored spots, slightly elevated, make their appearance on the sides of the abdomen, gradually extending all over the anterior portion of the body. Delirium is a common symptom. If no complication occurs, the fever runs its course in about two weeks. We shall not recommend any treatment except that indicated under the general management of fevers, but advise the early attendance of the family physician.

THE ERUPTIVE FEVERS.

The eruptive fevers are characterized by a rash, or a more distinct vesicular or pustular eruption, as in chicken-pox or small-pox. Each is due to a distinct specific poison, and all are contagious except those called rose-rash and erysipelas.

SCARLET FEVER. (Scarlatina.)

This fever takes its name from the scarlet color of the eruption on the surface of the body. Sometimes it is comparatively mild, and is then called *Scarlatina Simplex;* when it is accompanied by a sore throat, it is termed *Scarlatina Anginosa;* and when the disease is of a low, putrid type, it is called *Scarlatina Maligna.* This disease has three distinct stages: (1), the stage of invasion; (2), the stage of eruption; and (3), the stage of desquamation. In the first stage there is pain in the head, increased heat of the skin, redness and soreness of the throat, and sometimes nosebleed, diarrhea, or vomiting. The average duration of this stage is twenty-four hours. The eruptive stage

generally begins on the second day, though sometimes it is delayed longer, and the scarlet rash rapidly diffuses itself over the whole body. The redness is vivid and has been compared to the appearance of a boiled lobster. The stage of eruption reaches its maximum of intensity on the third day, and it is important that it does not recede. Redness of the tonsils and throat is one of the early symptoms which precedes any cutaneous eruption. The tongue also is finely spotted with numerous red points which mark its papillæ, presenting an appearance which has been compared to that of a strawberry.

The thirst is urgent, there is no appetite, and vomiting and mild delirium are common. This stage continues from four to six days, and sometimes longer. Desquamation (scaling off of the skin) commences at the decline of the eruption, in the form of minute, branny scales. The duration of this stage is indefinite, and may end in five or six or may continue ten or twelve days.

If the inflammation in the throat is very severe, it may terminate in an abscess, which may also occur in the glands of the neck, and sometimes the inflammation extends to the lips, cheeks, and eyelids. Gangrene within the throat occurs in rare instances. The disease is easily communicated, and usually develops in two to five days after exposure. It occurs most frequently in the third and fourth years of life. There is no other disease so simple, and yet so often liable to prove fatal, as scarlet fever; and for this reason we shall advise the attendance of the family physician.

Domestic treatment may be given as follows, until a physician can be obtained: Catnip, pennyroyal, or pleurisy-root tea, containing one teaspoonful of the Extract of Smart-weed, may be given, to drive the rash to the surface. Cold drinks are suitable to allay the thirst, nausea, and fever. The sick-room should be kept at a temperature of about 65° Fahr., and fresh air admitted freely. The patient ought not to be overloaded with bedclothes; and the skin should be sponged over twice daily with tepid water, different parts being exposed successively, and carefully dried with soft cloths. Soda may be added to the water, but no soap should be used. The diet should consist of milk, extract of beef, and soups. Injections may be employed

to relieve constipation, but purgatives should be avoided. We repeat that this disease is one which requires the attendance of the family physician, and great care should be exercised during recovery, that no bad results may follow.

SMALL-POX. (Variola,)

Small-pox is produced by a specific poison, which is reproduced and multiplied during the progress of the disease. It is contained in the pustules, and in the excretions and exhalations of affected individuals. It is established after a period of incubation varying from nine to thirteen days after infection.

There are two varieties of this disease, known as *confluent* and *distinct* variola; in the former, the vesicles run together, in the latter, they are separate.

This fever has three stages. The first is that of *invasion*, distinctly marked by a chill or a series of chills, which alternate with flushes of heat. In this stage the tongue becomes coated, there is also nausea and vomiting, pain in the limbs, back, and particularly in the loins, the latter symptom being of diagnostic importance. This stage continues about two days, and if the symptoms are light, it may be expected that the disease will be comparatively mild, and of the *distinct* variety.

The stage of eruption. The eruption begins to appear on the skin, generally on the third day following the attack, though in the throat and mouth may be discovered round, whitish, or ashy spots, several hours previous to the appearance of vesicles on the surface of the body. These are first seen on the face and neck, then on the trunk and upper extremities, and, lastly, on the lower extremities. The eruption at first appears in the form of small, red or purple spots, which change the texture of the skin by becoming more hard, pointed, and elevated. On the fifth day of the eruption they attain their full size, being softened and depressed in the center, and hence are called *umbilicated.* Now a change takes place, and the vesicles fill with "matter" and become pointed, and there is a rise in the fever.

The stage of suppuration commences thus: the pulse quickens, the skin becomes hotter, and in many cases of the confluent variety, swelling of the face, eyelids, and extremities occurs. Frequently there is passive delirium in this stage, and if diarrhea

sets in, it is an unfavorable sign. The duration of this stage of the eruption is four or five days.

The stage of desication, or of the drying of the pustules, commences between the twelfth and fourteenth day of the disease. In the confluent variety, patches of scab cover all the space occupied by the eruption, and the skin exhales a sickening odor.

The Treatment should have reference to the determination of the eruption to the surface. If there is thirst, allow cold drinks, ice-water, or lemonade. Bathing the surface with cold water, breathing plenty of fresh air, using disinfectants in the room, and taking antiseptic medicine internally, are proper. Add one part of carbolic acid to six parts of glycerine, mix from two to three drops of this with an ounce of water, and of this preparation administer teaspoonful doses frequently. A few drops of carbolic acid and glycerine may be rubbed up with vaseline, and the surface anointed with it to prevent pitting. The malady is so grave that it should be intrusted to the care of the family physician.

VARIOLOID. (Modified Small-pox.)

Varioloid is a modified form of small-pox. There is less constitutional disturbance, and very little or no pitting of the skin. Varioloid generally occurs in persons who have not been fully protected by vaccination. A person suffering from this modification of the disease may, by contagion, communicate to another genuine small-pox. The *treatment* is the same as that recommended in variola.

VACCINIA. (Cow-pox.)

The important discovery of vaccination is due to Dr. Jenner, who ascertained that when the cow was affected by this disease and it was then communicated to man, the affection was rendered very mild and devoid of danger, and at the same time it proved a very complete protection against small-pox. Like most other valuable discoveries introduced to the world, it encountered bitter prejudice and the most unfair opposition. Now its inestimable value is generally known and admitted.

In a few cases, in which the quality of the vaccine virus was

deteriorated, its effect is only to slightly modify small-pox, and then the disease resembles that caused by inoculation. The operation of infecting the blood with the *kine virus* is called *vaccination.* All that we know is that when the cow becomes affected with this disease, and it is then transferred to man, it loses its severity and serves as a protection against small-pox. In a great majority of cases this protection is absolute, and only in a very few does it leave the subject susceptible to small-pox, materially modified. The protection it affords against small-pox is found to diminish after the lapse of an indefinite number of years, and hence it is important to be re-vaccinated once or twice, for instance, after an interval of five years. Between the second and third months of infancy is the best period for vaccination, and the place usually selected is the middle of the arm above the elbow-joint.

CHICKEN-POX. (Varicella.)

Chicken-pox is an eruptive disease, which affects children, and occasionally adults. It is attended with only slight constitutional disturbance, and is, therefore, neither a distressing nor dangerous affection. The eruption first appears on the body, afterwards on the neck, the scalp, and lastly on the face. It appears on the second or third day after the attack, and is succeeded by vesicles containing a transparent fluid. These begin to dry on the fifth, sixth, or seventh day. This disease may be distinguished from variola and varioloid by the shortness of the period of invasion, the mildness of the symptoms, and the absence of the deep, funnel-shaped depression of the vesicles, so noticeable in variola.

Treatment. Ordinarily very little treatment is required. It is best to use daily an alkaline bath, and, as a drink, the tea of pleurisy-root, catnip, or other diaphoretics, to which may be added from one-half to one teaspoonful of the Extract of Smart-weed. If the fever runs high, a few drops of aconite in water will control it.

MEASLES. (Rubeola.)

This is generally a disease of less severity and importance than the other eruptive fevers, but it is sometimes followed by

serious complications. The stage of invasion is marked by the symptoms of a common cold, sneezing, watery eyes, a discharge from the nostrils, a dry cough, chilliness, and headache. This stage may last four days. Then follows an eruption of red dots or specks, which momentarily disappear on pressure. On the fourth day of the eruption the redness of the skin fades, the fever diminishes, and the vesicles dry into scales or little flakes. The eyes may be inflamed and the bowels may be quite lax at this stage.

Treatment. The great object in the treatment is to bring out the eruption. To effect this, sweating teas are beneficial. The free use of the Extract of Smart-weed is recommended, and the skin should be bathed every day with tepid water. Sometimes when warm drinks fail to bring out the eruption, drinking freely of cold water and keeping warmly covered in bed, will accomplish the desired result.

False Measles (*Rose Rash*) is an affection of very little importance and may be treated similarly to a case of ordinary measles.

ERYSIPELAS.

There are few adult persons in this country who have not, by observation or experience, become somewhat familiar with this disease. Its manifestations are both constitutional and local, and their intensity varies exceedingly in different cases. The constitutional symptoms are usually the first to appear, and are of a febrile character. A distinct chill, attended by nausea and general derangement of the stomach is experienced, followed by febrile symptoms more or less severe. There are wandering pains in the body and sometimes a passive delirium exists. Simultaneously with these symptoms the local manifestations of the disease appear. A red spot develops on the face, the ear, or other part of the person. Its boundary is clearly marked and the affected portion slightly raised above the surrounding surface. It is characterized by a burning pain and is very sensitive to the touch. It is not necessary for the benefit of the popular reader that we should draw a distinction between the different varieties of this malady. The distinctions made are founded chiefly upon the *depth* to which the morbid condition extends, and not on any difference in the *nature of the affection.*

Suppuration of the tissues involved is common in the severer forms. Should the tongue become dark and diarrhea set in, attended with great prostration, the case is very serious, and energetic means must be employed to save life. A retrocession of the inflammation from the surface to a vital organ is an extremely dangerous symptom.

The disease is not regarded as contagious, but has been known to become epidemic.

Treatment. The treatment during the initial stage of this disease should correspond with the general principles laid down for the treatment of fever. The spirit vapor-bath, with warm, diaphoretic teas, or the Compound Extract of Smartweed may be given to favor sweating. The whole person should be frequently bathed in warm water rendered alkaline by the addition of saleratus or soda. The bowels should be moved by a full dose of the Purgative Pellets. Fluid extract of aconite in small and frequent doses, will best control the fever. The specific treatment, which should not be omitted, consists in administering doses of ten drops of the tincture of the muriate of iron in alternation with teaspoonful doses of the Golden Medical Discovery, every three hours. As a local application, the inflamed surface may be covered with cloths wet in the mucilage of slippery elm. Equal parts of sweet oil and spirits of turpentine, mixed and painted over the surface, is an application of unsurpassed efficacy.

DIPHTHERIA.

This is an exceedingly grave, constitutional disease characterized by a rapid breaking down of the powers of life, together with a peculiar affection of the throat, in which a disposition to the formation of false membranes is a prominent feature. The formation of these membranes, however, is not limited to the throat, but may occur on mucous surfaces elsewhere. In this disease the local affection is but the expression of a specific, morbid condition of the system, which closely resembles that present in the severer forms of scarlet fever.

Cause. This is an epidemic disease, and, like other epidemics, has its special causes, though precisely what these are, has not been determined. It is also considered contagious.

Symptoms. The symptoms vary in different cases. In some the disease comes on gradually, while in others it is malignant from the first. The throat feels sore, the neck is stiff and a sense of languor, lassitude, and exhaustion pervades the system. Sometimes a chill is experienced at the outset. Febrile disturbance, generally of a low, typhoid character, soon manifests itself. The skin is hot; there is intense thirst; the pulse is quick and feeble, ranging from 120 to 150 per minute. The tongue is generally loaded with a dirty coat, or it may be bright red. The odor of the breath is characteristic, and peculiarly offensive, and there is difficulty in swallowing and sometimes in breathing. Vomiting is sometimes persistent. If we examine the throat, we find more or less swelling of the tonsils and surrounding parts, which are generally bright red, and shining, and covered with a profuse, glairy, tenacious secretion. Sometimes the parts are of a dusky, livid hue, and, in rare instances, pallid. The false membrane, a peculiar tough exudation, soon appears and may be seen in patches, large or small, or covering the entire surface from the gums back as far as can be seen, its color varying from a whitish yellow to a gray or dark ashen tint. When it is thrown off, it sometimes leaves a foul, ulcerating surface beneath. The prostration soon becomes extreme, and small, livid spots may appear on the surface of the body. There may be delirium, which is, in fatal cases, succeeded by stupor, or coma. The extremities become cold; diarrhea, and in some cases convulsions, indicate the approach of death. Sometimes the patient dies before the false membrane forms.

Treatment. The extremely dangerous character of this disease demands that the services of a skillful physician be obtained at once; and that his efforts should be aided by the most thorough hygienic precautions, good ventilation, bathing, and a supporting diet. Prior to the arrival of the physician, lose no time in using the spirit vapor-bath and hot foot-bath. If the former is impracticable, the latter is not. Get the patient into a prespiration, and maintain it. For this purpose, small doses of the Compound Extract of Smart-weed may be given in some diaphoretic infusion, as pleurisy-root or catnip, repeated as often as the case demands. Control the vomiting

and allay the thirst by allowing the patient to suck small pieces of ice every five or ten minutes. Hot fomentations or spirits of turpentine should be applied to the throat. If the physician does not take charge of the patient by this time, the throat should be swabbed out with the following mixture: chlorate of potash, four drachms; tincture of muriate of iron, three drachms; syrup of orange, two oz.; water sufficient to make four oz.; and two teaspoonfuls of it administered every two or three hours. No drinks should be allowed the patient for a few minutes after each dose, in order that the full local effect may be obtained. Inhaling steam from water to which a few drops of the oil of peppermint has been added, is often serviceable, although some practitioners regard the vapor of alcohol or limewater inhalations as preferable. The use of blisters, caustics, active purges, mercurials, or bleeding, should be condemned. Throughout the whole course of the disease the strength must be supported by the most nourishing diet, as well as by tonics and stimulants. Beef tea, milk, milk punch, quinine, and brandy should be freely administered. Although we have given a very complete course of treatment, and one which has proved eminently successful in this disease, yet we would not advise any non-professional person to rely upon any course of treatment not under the observation and direction of a competent physician, when one can be had.

QUINSY. (Tonsillitis.)

This is an acute inflammation of the tonsils, which generally extends to, and involves adjacent structures, and is attended with general febrile disturbance. Its duration varies from four to twenty days. It sometimes terminates by a gradual return to health (resolution); or by the formation of "matter" within the gland (suppuration.) When this latter is the case, the swelling sometimes becomes so great before it breaks as to require lancing.

Causes. It most frequently results from a cold. In some persons there is a predisposition to it, and the individual is liable to recurring attacks. Persons of a scrofulous diathesis are more liable to it than others.

Symptoms. Difficulty of swallowing, soreness, and stiffness

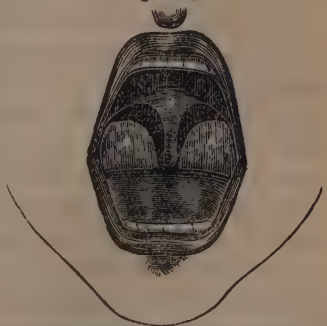
of the throat, are the first monitions of its approach. There is fever, quick, full pulse, and dryness of the skin; the tongue is furred, and the breath offensive. The tonsils are intensely red, swollen, and painful, the pain often extending to the ear. Sometimes but one tonsil is affected, though generally both are involved. In severe cases the patient cannot lie down, in consequence of the difficulty of breathing.

Treatment. In the early stage of the disease, the spirit vapor-bath is invaluable. The sweating which it produces should be kept up by the use of the Compound Extract of Smart-weed in some diaphoretic infusion. Hot wet-packs to the throat, covered with dry cloths, are useful. The inhalation of the hot vapor of water or vinegar, or peppermint and water, is beneficial. A carthartic should be given at night. When the disease does not show a disposition to yield to this treatment, the services of a physician should be obtained. When pus, or "matter," is formed in the tonsil, which may be known by the increased swelling and the appearance of a yellowish spot, the services of a physician will be required to lance it.

ENLARGED TONSILS.

Chronic enlargement of the tonsils, as shown in Fig. 147, *A A*, is an exceedingly common affection. It is most common to those of a scrofulous habit. It rarely makes its appearance after the thirtieth year, unless it has existed in earlier life, and has been imperfectly cured. Both tonsils are generally, though unequally enlarged. A person affected with this disease is extremely liable to sore throat, and contracts it on the slightest exposure; the contraction of a cold, suppression of perspiration, or derangement of the digestive apparatus being sufficient to provoke inflammation.

Fig. 147.



A A.—Enlarged Tonsils. *B.*- Elongated Uvula.

Causes. Repeated attacks of quinsy, scarlet fever, diphtheria, or scrofula, and general impairment of the system, predispose the individual to this disease.

Symptoms. The voice is often husky, nasal or guttural, and disagreeable. When the patient sleeps, a low moaning is heard, accompanied with snoring and stentorian breathing, and the head is thrown back so as to bring the mouth on a line with the windpipe, and thus facilitate the ingress of air into the lungs. When the affection becomes serious, it interferes with breathing and swallowing. The chest is liable to become flattened in front and arched behind, in consequence of the difficulty of respiration, thus predisposing the patient to pulmonary disease. On looking into the throat, the enlarged tonsils may be seen, as in the figure. Sometimes they are so greatly increased in size that they touch each other.

Treatment. The indications to be carried out in the cure of this malady are:

(1.) To remedy the constitutional derangement.

(2.) To remove the enlargement of the tonsil glands.

The successful fulfillment of the first indication may be readily accomplished by attention to hygiene, diet, clothing, and the use of the Golden Medical Discovery, together with small daily doses of the Pleasant Purgative Pellets. This treatment should be persevered in for a considerable length of time after the enlargement has disappeared, to prevent a return.

To fulfill the second indication, astringent gargles may be used. Infusions of witch-hazel or cranesbill should be used during the day. The following mixture is unsurpassed: iodine, one drachm; iodide of potash, four drachms; pure, soft water, two ounces. Apply this preparation to the enlarged tonsils twice a day, with a probang, or soft swab, being careful to paint them each time. A persevering use of these remedies, both internal and local, is necessary to reduce and restore the parts to a healthy condition.

Sometimes the enlarged tonsils undergo calcareous degeneration; in this case, nothing but their removal by a surgical operation is effectual. This can be readily accomplished by any competent surgeon. We have operated in a large number of cases, and have never met with any unfavorable results.

ELONGATION OF THE UVULA.

Chronic enlargement or elongation of the uvula, or palate, as shown at B, Fig. 147, may arise from the same causes as enlargement of the tonsils. It subjects the individual to a great deal of annoyance by dropping into and irritating the throat. It causes tickling and frequent desire to clear the throat, change, weakness, or entire loss of voice, and difficulty of breathing, frequently giving rise to the most persistent and aggravating cough.

Treatment. The treatment already laid down for enlarged tonsils, with which affection, elongation of the uvula is so often associated, is generally effectual. When it has existed for a long time and does not yield to this treatment, it may be removed by any competent surgeon.

ANÆMIA.

When the blood contains less than the ordinary number of red corpuscles, the condition is known as *anæmia*, and is characterized by every sign of debility. A copious hemorrhage, in consequence of a cut, or other serious injury, will lessen the quantity of blood and may produce anæmia. After sudden blood-letting, the volume of the circulation is quickly restored by absorption of fluid, but the red corpuscles cannot be so readily replaced, so that the blood is poorer by being more watery. This is only one way in which the blood is impoverished.

The blood may be exhausted by a drain upon the system, in consequence of hard and prolonged study. Severe mental employment consumes the red corpuscles, leaving the blood thin, the skin cool and pale, and the extremities moist and cold.

Anæmia may arise from lack of exercise, or it may be occasioned by mental depression, anxiety, disappointment, trouble, acute excitement of the emotions or passions, spinal irritation; in fact, there are many special relations existing between the red corpuscles of the blood and the various states of the mind and the nervous system. The latter depends directly upon the health and quantity of these red corpuscles for its ability to execute its functions.

Anæmia may arise in consequence of low diet, or because the alimentary organs do not properly digest the food, or when there is not sufficient variety in the diet. No matter how anæmia is occasioned, whether by labor and expenditure, by hemorrhages, lead poisoning, prolonged exposure to miasmatic influences, deprivation of food, indigestion, imperfect assimilation, frequent child-bearing, or lactation, the number of the red corpuscles in the blood is materially diminished.

The diagnostic symptoms of anæmia are pallor of the face, lips, tongue, and general surface, weakness of the vital organs, hurried respiration on slight exercise, swelling or puffiness of the eyes, and a murmur of the heart, resembling the sound of a bellows.

This disorder of the blood tends to develop low inflammation, dropsical effusion, tubercular deposits, Bright's disease, derangements of the liver, diarrhea, leucorrhea, and is a precursor of low, protracted fevers. This condition of the blood predisposes to the development of other affections, providing they are in existence, and often it is found associated with Bright's disease, cancer, and lung difficulties.

Treatment. (1.) Prevent all unnecessary waste and vital expenditure.

(2) Place the patient under favorable circumstances for recovery, by regulating the exercise and clothing entertaining the mind, and furnishing plenty of pure air.

(3.) Prescribe such a nutritious diet as will agree with the enfeebled condition of the patient.

(4.) Regular habits should be established in regard to meals, exercise, recreation, rest, and sleep.

(5.) The use of tonics and stimulants, as much as the stomach will bear, should be encouraged. Bathe the surface with a solution of a drachm of quinine in a pint of whisky.

(6.) Iron, in some form, is the special internal remedy in anæmia. Meantime, it is proper to treat the patient with gentle, manual friction, rubbing the surface of the body lightly and briskly with the warm, dry hand, which greatly stimulates the circulation of the blood. Anæmia occurs more frequently in the female than in the male, because her functions and duties are more likely to give rise to it.

APNŒA.

Apnœa, or short, hurried, difficult respiration, is occasioned by certain conditions of the blood. When anything interferes with the absorption of oxygen, or the elimination of carbonic acid, the blood is not changed from venous to arterial, and becomes incapable of sustaining life. This morbid condition is termed *asphyxia*. We often read of persons going into wells where there are noxious gases, or remaining in a close room where there are live coals generating carbonic acid gas and thus becoming asphyxiated, dying for want of oxygen.

Deficiency of oxygen is the cause of apnœa, and sometimes the red corpuscles themselves are so few, worn out, or destroyed, that they cannot carry sufficient oxygen, and the consequence is that the patient becomes short of breath, and when a fatal degeneration of the corpuscles ensues, he dies of asphyxia. Many a child grows thin and wan and continues to waste away, the parents little dreaming that the slow consumption of the red corpuscles of the blood is the cause which is undermining the health. Sometimes this disease is the result of starvation, irregular feeding, improper diet, want of care, and, at other times, want of fresh air, proper exercise, and sunlight.

Treatment. The first essential to success in the treatment of this disease, is the removal of the exciting cause. Exercise in the outdoor air and sunlight, with good, nutritious food, and well-ventilated sleeping apartments, are of the greatest importance. The bitter tonics, as hydrastin, with pyrophosphate of iron, should be employed to enrich the blood and build up the strength.

LEUCOCYTHÆMIA.

This term is used to designate a condition in which there is an excess of colorless blood-corpuscles. In health, the colorless corpuscles should exist only in the proportion of one, to one or two hundred of the red corpuscles. These colorless corpuscles increase when there is disease of the lymphatic glands, but whether this is the cause of their increase or perversion is not known.

They have been found abundant in the blood in diseases of the spleen and of the liver. Diarrhea usually attends this

complaint, together with difficult breathing, loss of strength, gradual decline, fever, diminution of vital forces, and finally death. The recovery of a well-marked case of this disease is very doubtful. Its average duration is about one year.

DROPSIES.

Transudation is the passage of fluid through the tissue of any part of the body without changing its liquid state, while *exudation* means, medically, the passage of matter which coagulates and gives rise to solid deposits. When transudations are unhealthy, they may accumulate in serous cavities or in cellular structures, and constitute *dropsy*. Exudation is the result of inflammation, and the product effused coagulates and becomes the seat of a new growth of tissue. Exosmosis means the passage of fluid from within outward, and is a process constantly taking place in health; while transudation takes place because the blood is watery and the tissues are feeble and permeable, permitting the serum and watery elements of the blood to pass into certain cavities, where they accumulate.

The cause of dropsies may be low diet, insufficient exercise, indigestion, hemorrhages, wasting diseases, in fact, any thing which impoverishes the blood and increases the relative amount of serum. The tardy circulation of blood in the veins, or its obstruction in any way, is a condition highly favorable to the development of dropsy.

General dropsy is called *anasarca*, and is readily distinguished by bloating or puffiness of the skin all over the body. This condition is also called *œdema*. The skin is pale, yields under the finger without pain, and preserves the impression for some time. The œdema usually appears first in the lower extremities, next in the face, and from thence extends over the body.

General dropsy is commonly due to an impoverished condition of the blood, and this may be the result of *albuminuria*, a disease of the kidneys. Albuminuria is frequently the sequel of scarlatina. Hence, the utmost care should be taken against exposure of a patient recovering from scarlatina, and the same caution should be exercised during convalescence from measles, erysipelas, and rheumatism. Dropsies may be general, as in anasarca, or local, as dropsy of the heart, called *cardiac* dropsy;

dropsy of the peritoneum, the serous membrane which lines the abdominal cavity, called *ascites;* dropsy of the chest, called *hydrothorax;* dropsy of the head, called *hydrocephalus;* dropsy of the scrotum, called *hydrocele.*

Dropsy is not, therefore, of itself a disease, but only the symptom of a morbid condition of the blood, kidneys, liver, or heart. Thus disease of the valves of the heart, may obstruct the free flow of blood and thus retard its circulation. In consequence the pulse grows small and weak, and the patient cannot exercise or labor as usual, and finally the lower limbs begin to swell, then the face and body, the skin looks dusky, the appetite is impaired, the kidneys become diseased, there is difficulty in breathing, and the patient, it is said, dies of dropsy, yet dropsy was the result of a disease of the heart, which retarded the circulation and enfeebled the system, and which was actually the primary cause of death.

Treatment. Dropsy being only a symptom of various morbid conditions existing in the system, any treatment to be radically beneficial must, therefore, have reference to the diseased conditions upon which the dropsical effusion, in each individual case, depends. These are so various, and frequently so obscure, as to require the best diagnostic skill possessed by the experienced specialist, to detect them. There are, however, a few general principles which are applicable to the treatment of nearly all cases of dropsy. Nutritious diet, frequent alkaline baths to keep the skin in good condition and favor excretion through its pores, and a general hygienic regulation of the daily habits, are of the greatest importance. There are also a few general remedies which may prove more or less beneficial in nearly all cases. We refer to diuretics and hydragogue cathartics. The object sought in the administration of these is the evacuation of the accumulated fluids through the kidneys and bowels, thus giving relief. Of the diuretics, queen of the meadow, buchu, and digitalis generally operate well. As a cathartic, the Purgative Pellets accompanied with a teaspoonful or two of cream of tartar, will prove serviceable. Beyond these general principles of treatment it would be useless for us to attempt to advise the invalid suffering from any one of the many forms of dropsy. The specialist skilled by large

experience in detecting the exact morbid condition which causes the watery effusion and accumulation, can select his remedies to meet the peculiar indications presented by each individual case. Sometimes the removal of the watery accumulation by tapping becomes necessary, in order to afford relief and give time for remedies to act. We have found it necessary to perform this operation very frequently in cases of *hydrocele*, and also quite often in cases of abdominal dropsy. The chest has also been tapped and considerable quantities of fluids drawn off, and this has been followed by prompt improvement and a final cure.

CASES TREATED.

Case I. A Canadian gentleman, aged 68, applied at the Invalids' Hotel and Surgical Institute, for examination and treatment. He had been dropsical for over two years, and had become so badly affected as to be unable to lie down at night. His legs were so filled with water and enlarged as to render it almost impossible for him to walk, and there was a general anasarca. The least exertion was attended with the greatest difficulty of breathing. He had been under the treatment of several eminent general practitioners of medicine in Canada but found no relief. They were unable to discover the real cause of his ailment, but to the specialist who has charge of this class of diseases at our institution, and who annually examines and treats hundreds of such cases, it was at once apparent that the dropsy was caused from a weakened condition of the heart, which rendered it unable to perform its functions. He was put upon a tonic and alterative course of treatment, which also embraced the use of such medicines as have been found to exert a specific, tonic action upon the muscular tissues of the heart. He improved so rapidly that in less than two months he was able to lie down and sleep soundly all night. The bloating disappeared, his strength improved, and in three month's more he was discharged perfectly cured.

Case II. A man aged 42, consulted us by letter, stating that he was troubled with general bloating which had made its appearance gradually and was attended by general debility and other symptoms which have been enumerated as common to general dropsy. He had been under the treatment of several home physicians without receiving any benefit; he had steadily grown worse until he felt satisfied that if he did not soon get relief he could not live very long. He was requested to send a sample of his urine for examination, as we had suspicions. from the symptoms which he gave, that the cause of his dropsy was *albuminuria*, or Bright's disease of the kidneys. On examination of the urine, albumen in very perceptible quantities was found to be present. We had, about this time, come into possession of a remedy said by very good authority, to be a specific in degeneration of the kidneys when not too far advanced, and we determined to test it upon this well-marked case. We accordingly prescribed it, together with other proper tonics and alteratives, at the same time giving the patient important hygienic advice, which must be complied with if success is attained in the management of this very fatal malady. Our patient gradually improved, and in a few months' time was restored to perfect health, which he has continued to enjoy ever since. From our

subsequent experience, embracing the treatment of quite a large number of cases of Bright's disease of the kidneys, we are satisfied that it is, in its early stage, quite amenable to treatment.

Case III. A man aged 35, single, consulted us for what he supposed to be enlargement of the testicles. The scrotum was as large as his head, and it was with difficulty that he could conceal the deformity from general observation. The disease was immediately recognized by the attending surgeon as hydrocele. The liquid was promptly drawn off by tapping, and a stimulating injection was made into the scrotum to prevent re-accumulation. We mention this case only because it is one among a very large number who have consulted us supposing that they were suffering from enlargement of the testicles, cancer, or some other morbid growth within the scrotum, when a slight examination has shown the affection to be hydrocele, a disease which is speedily cured by tapping, with a little after treatment. The operation is perfectly safe and almost entirely painless.

Case IV. A lady, aged 24, consulted us by letter enumerating a long list of symptoms which clearly indicated abdominal dropsy, resulting from suppression of the menses. A well-regulated, hygienic treatment was advised, and medicines to restore the menstrual function by gradually toning up and regulating the whole system, were forwarded to her by express. After four months' treatment, perfect recovery resulted. Cases like this latter are very common and generally yield quite readily to proper management. No harsh or forcing treatment for restoring the menstrual function should be employed, as it will not only fail to accomplish the object sought, but it is also sure to seriously and irreparably injure the system. The most difficult cases which we have had to deal with, have been those which had been subjected by other physicians to the administration of strong emmenagogues in the vain effort to bring on the menses.

RHEUMATISM.

Prominent among constitutional diseases is the one known as *rheumatism*. It is characterized by certain local symptoms or manifestations in fibrous tissues. This term has been applied to neuralgic affections and to *gout*, but it differs from each in several essential particulars. Rheumatism may be divided into (1) *Acute*, (2) *Chronic*, (3) *Muscular*.

Acute Articular Rheumatism. Acute articular rheumatism implies an affection of the articulations or joints. It usually commences suddenly; sometimes pain or soreness in the joints precedes the disclosure of the disease. The symptoms are pain in the joints, tenderness, increased heat, swelling and redness of the skin. The pain varies in its intensity in different cases, and is increased by the movement of the affected parts. Swelling of the joints occurs, especially those of the knee, ankle, wrist, elbow, and the smaller joints of the hands and feet. The swelling and redness are generally in

proportion to the acuteness of the attack. Acute articular rheumatism is always accompanied with more or less fever. Sweating is generally a prominent symptom, being strongly acid and more profuse during the night. The appetite is impaired, the tongue is coated, the bowels are constipated, or there is diarrhea.

The Duration of this Disease. Unlike fevers, its course is marked by fluctuations; frequently after a few days the pain subsides, the fever disappears, and convalescence is apparently established, when, suddenly, all the symptoms are renewed with even greater intensity than before. This disease rarely proves fatal, unless the heart is involved.

Causes. Rheumatism is frequently supposed to be occasioned by a suppression of the functions of the skin, and is generally attributed to the action of cold upon the surface of the body. But this acts only as an exciting cause. It is a disease of the blood. This form of rheumatism usually occurs between the age of fifteen and thirty, and prevails most extensively in changeable climates. Acute articular rheumatism seldom terminates in the chronic form.

Chronic Articular Rheumatism. Articular rheumatism, in the subacute or chronic form, is frequently observed in medical practice. The symptoms are pain and more or less swelling of the joints, although not of as grave a character as in acute rheumatism. There is frequently an absence of increased heat and redness. As in the acute form, the different joints are liable to be affected successively and irregularly, until, after a time, the disease becomes fixed in a single joint, and the fibrous tissues entering into the ligaments and tendons are liable to be affected. The appetite, digestion, and nutrition are often good, and, in mild cases, patients are able to pursue their daily vocations. The disease is supposed to be the same as in the acute form, but milder, and, strange to say, more persistent. A diseased condition of the blood is supposed to be involved in both instances, but this morbid state is less extended, and, at the same time, more obstinate in the chronic than in the acute form. Subacute articular rheumatism is not always chronic, and may disappear in a shorter time than in the acute form. Chronic articular rheumatism is not generally fatal, but there is danger of permanent deformities.

Muscular Rheumatism. This affection is closely allied to *neuralgia*, and may properly be called *myalgia*. It exists under two forms, acute and chronic. In acute muscular rheumatism, there is at first a dull pain in the muscles, which gradually increases. When the affected muscles are not used the pain is slight, and certain positions may be assumed without inducing it constantly; but in movements which involve contraction of the muscles the pain is very violent. In some cases, the disease is movable, changing from one muscle to another, but usually it remains fixed in the muscle first attacked. The appetite and digestion are not often impaired, and there is no fever. The duration of this form of rheumatism varies from a few hours to a week or more.

In subacute or chronic muscular rheumatism, pain is excited only when the affected muscles are contracted with unusual force, and then it is similar to that experienced in the acute form. The chronic form is more apt to change its position than the acute. The duration of this form is indefinite. In both the acute and chronic forms some particular parts of the body are more subject to the affection than others.

The muscles on the posterior part of the *neck* are subject to rheumatic affection. It is termed *torticollis* or *cervical* rheumatism in such cases, and should be distinguished from ordinary neuralgia. When the muscles of the loins are affected, it is commonly known as *lumbago*. In case the thoracic muscles are affected, it is known as *pleurodynia*. In coughing, sneezing, and the like, the pain produced is not unlike that in pleuritis and intercostal neuralgia.

One of the most marked features of muscular rheumatism, is the cramp-like pain, induced by the movements of the affected muscles, whereas the pain is slight when those muscles are uncontracted. This feature is very serviceable in distinguishing muscular rheumatism, or myalgia, from neuralgic affections. Another trait which distinguishes muscular rheumatism from neuralgia, is that the former is characterized by great soreness, while the latter is not. There is also a distinction between inflammation of the muscles and muscular rheumatism. In the case of the former, there is continued pain, swelling of the parts, occasional redness, and the presence of

more or less fever, which conditions do not exist in the latter. Persons subject to rheumatism of the muscles, are apt to suffer from an attack, after exposure of the body to a draught of air during sleep, or when in a state of perspiration.

Treatment of Acute Rheumatism. Administer the spirit vapor-bath to produce free perspiration, which should be maintained by full doses of the Compound Extract of Smart-weed. The anodyne properties of the latter also prove very valuable in allaying the pain. Tincture or fluid extract of aconite root may also be employed, to assist in equalizing the circulation, and also to secure its anodyne action. Black cohosh seems to exert a specific and salutary influence in this disease, and the tincture or fluid extract of the root of this plant may be advantageously combined with the aconite. Take fluid extract of aconite-root, thirty drops; fluid extract of black cohosh, one drachm; water, fifteen teaspoonfuls; mix. The dose is one teaspoonful every hour. The whole person should be frequently bathed with warm water, rendered alkaline by the addition of saleratus or soda. The painful joints may be packed with wool or with cloths wrung from the hot saleratus water, and the patient kept warm and quiet in bed. The acetate of potash taken in doses of five grains, well diluted with water, every three or four hours, is very valuable in acute rheumatism. Its alkaline qualities tend to neutralize the acid condition of the fluids of the system, and it also possesses diuretic properties which act upon the kidneys, removing the offending blood-poison from the system through these organs. If the joints are very painful, cloths wet with the Compound Extract of Smart-weed and applied to them, and covered with hot fomentations, very frequently relieve the suffering. The majority of cases yield quite promptly to the course of treatment already advised, if it is persevered in. The disease, however, sometimes proves obstinate and resists for many days the best treatment yet known to the medical profession.

Treatment of Chronic Rheumatism. The general alkaline baths recommended in the acute affection are also valuable in the chronic. The spirit vapor-bath, the Turkish, as well as the sulphur vapor-bath, are all worthy of a trial in this obstinate and painful disease. Alteratives are a very valuable

class of agents in chronic rheumatism. The following mixture, in teaspoonful doses three times a day, in alternation with the Golden Medical Discovery, has proved very successful in this disease: acetate of potash, one ounce; fluid extract of black cohosh, one ounce; fluid extract of poison hemlock, two drachms; simple syrup, six ounces. This thorough alterative course, if well persevered in, together with the use of alkaline and vapor-baths, will generally prove very successful. The specialist, however, dealing with chronic diseases exclusively, will occasionally meet with a case which has been the rounds of the home physicians without benefit, that will tax his skill and require the exercise of all his perceptive faculties to determine the exact condition of the patient's system, upon which the obstinacy of the disease depends. When this is ascertained, the remedies will naturally suggest themselves, and the malady will generally yield to them. But, although the treatment of this disease has entered largely into our practice at the Invalid's Hotel, and has been attended by the most happy results, yet the cases have presented so great a diversity of abnormal features, and have required so many variations in the course of treatment, to be met successfully, that we frankly acknowledge our inability to so instruct the unprofessional reader as to enable him to detect the various systemic faults common to this ever-varying disease, and adjust remedies to them, so as to make the treatment uniformly successful. If the several plans of treatment which we have given do not conquer the disease, we can not better advise the invalid than to recommend him to employ a physician of well-known skill in the treatment of chronic diseases. If such a one is not accessible for personal consultation, a careful statement of all the prominent symptoms, in writing, may be forwarded to a specialist of large experience in this disease, who will readily detect the real fault, in which the ailment has its foundation. Particularly easy will it be for him to do so, if he be an expert in the analysis of urine. A vial of that which is first passed in the morning, should be sent with the history of the case, as chronic rheumatism effects characteristic changes in this excretion, which clearly and unmistakably indicate the abnormal condition of the fluids of the body upon which the disease depends.

DISEASES OF THE SKIN.

ECZEMATOUS AFFECTIONS.

Eczematous affections constitute a very important class of skin diseases, the prominent characteristics of which are *eruption* and *itching*. They are progressive in character, passing through all the successive stages of development, from mere redness of the skin to desquamation, or thickening of the cuticle. The affections belonging to this group are *eczema*, *psoriasis*, *pityriasis*, *lichen*, *impetigo*, *gutta rosacea*, and *scabies*, or *itch*. A careful examination of each of these diseases shows it to be a modified form of eczema, and, therefore, they demand similar treatment.

Eczema. (*Humid Tetter*, *Salt-rheum*, *Running Scall*, or *Heat Eruption*.) The term *eczema* is used to designate the commonest kind of skin diseases.

In this disease, the minute blood-vessels are congested causing the skin to be more vascular and redder than in its natural state. There is an itching or smarting in the affected parts. The skin is raised in the form of little pimples or vesicles, and a watery lymph exudes. Sometimes the skin becomes detached and is replaced by a crust of hardened lymph, or it may be partially reproduced, forming *squamæ*, or scales. There are three stages of this disease; the inflammatory, accompanied by swelling, and the formation of pimples or vesicles; that of exudation, which is succeeded by incrustation; and that of desquamation, in which the skin separates in little scales and sometimes becomes thickened. Rarely, if ever, does the disease pass through these successive stages, but it is modified by its location and the temperament of the patient.

The many varieties of eczema are designated according to their predominating characteristics. Thus, when pimples or vesicles are abundant, it is termed, respectively, *eczema papulosum* and *eczema vesiculosum*, a fine illustration of which may be seen in Colored Plate I, Fig. 1, Again, when characterized by the eruption of pustules, it is termed *eczema pustulosum*, a representation of which may be seen in Plate I, Fig. 2; and, when the prominent feature is the formation of scales, it is termed *eczema squamosum*.

Eczema may be general or partial; in other words, the eruption may appear in patches or be distributed over the entire surface of the body. The latter form often appears in infants, but rarely occurs in adults. Two or more varieties of the eruption may be associated, or one form may gradually develop into another.

Infants and young children are peculiarly subject to this disorder, and, if the disease be not promptly arrested, it will assume the severest form and eventually become chronic. The muscles are soft, the eyes are dull and expressionless, and the little sufferer experiences the

Plate I.

Fig. 1.

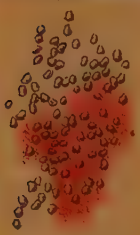


Fig. 2.

Fig. 3

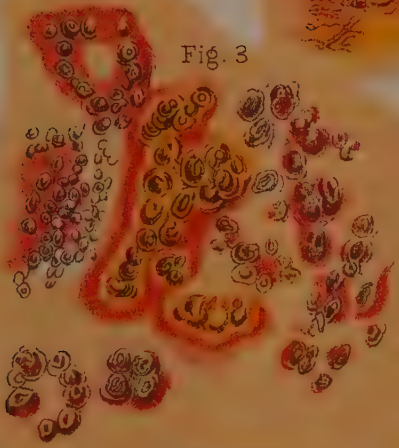


Fig. 4.

Fig. 5

most excruciating torments. Frequently the whole body is covered with patches of eczema, the secretions are arrested, and, where the scales fall off, the skin is left dry and feverish.

Eczema has no symptoms proper, since the morbid feelings are due to constitutional debility, of which eczema is the result. The *signs* of eczema are redness, heat, an itching or smarting sensation, the formation of pimples or vesicles, exudation, incrustation, the separation of the cuticle into scales and a gradual thickening of the skin.

Causes. Three forms of constitutional derangement predispose the system to eczema; nutritive, assimilative, and nervous debility. In the former, there is a diminution of nutritive power, so that the patient becomes weak and emaciated. Assimilative debility is indicated by an impaired digestion and a consequent suppression, or an abnormal state of the secretions. Eczema occasioned by nervous debility, is accompanied by all the morbid conditions incident to irritation and exhaustion of the nervous system. Eczema may be excited by a violation of the rules of hygiene, as undue exposure, or sudden transition from heat to cold, deficient or excessive exercise, impure air, or improper clothing.

Psoriasis. Psoriasis may be defined as a *chronic form of eczema*. The transition of the last stage of eczema into psoriasis is indicated by a tendency of the inflamed, thickened, scaly skin to become moist when rubbed. It usually appears in patches on various portions of the body. The skin is parched and highly discolored. The hairs are harsh and scanty. The patient is constantly tormented by an unbearable itching sensation and, if the skin is rubbed, it exudes a viscous or sticky fluid. These are the characteristic signs of psoriasis. It generally appears on the flexures, folds and crooks of the joints, the backs and palms of the hands, the arms, and the lower portions of the legs.

Pityriasis. (*Branny Tetter*, or *Dandruff*.) This affection is a mild form of psoriasis, from which it may be distinguished by a more superficial congestion or inflammation of the affected parts, the absence of swelling, and the formation of smaller scales, having the form and appearance of *fine bran*. It generally appears on the scalp, sometimes extends over the face, and, in rare instances, affects the entire surface of the body. The signs peculiar to this disease are slight inflammation, itching, and the formation of minute scales.

Causes. Pityriasis is caused by nutritive debility, and is often associated with erysipelas, rheumatism, and bronchitis.

Lichen. (*Papular Rash*.) Lichen is a term used to designate an eruption of minute conical pimples, which are more or less transparent, réd, and occasion great annoyance. The eruption is attended with a severe, hot, prickling sensation, as if the flesh were punctured with hot needles. The pimples contain no pus, but if opened, they exude a small qnantity of blood and serum. This disease more frequently occurs between the ages of twelve and fifty, but occasionally appears

during dentition, when it is called "tooth rash." The lichen pimples are sometimes dispersed singly over the skin and gradually subside, forming a minute scale, corresponding in position with the summit of the pimple. When the pimples appear in clusters, there is a diffused redness in the affected part, and, if they are irritated, minute scabs will be formed. Lichen generally appears on the upper portion of the body, as on the face, arms, hands, back, and chest.

The various forms of lichen are designated according to their causes, signs, location, manner of distribution, and the form of the pimples.

Lichen Simplex is the simplest form of this disorder, and is indicated by the appearance of minute pimples, which, when the distribution is general, are arranged like the blotches of measles. Sometimes the eruption is local and bounded by the limits of an article of clothing, as at the waist. In eight or ten days, the cuticle separates into minute scales, which are detached and thrown off; but a new crop of pimples soon appears and runs the same course, only to be succeeded by another, and thus the affection continues for months and even years.

Lichen circumscriptus is an aggravated form of *lichen simplex*, and is characterized by a circular arrangement of the pimples. The circumference which marks the limit of the patch is sharply defined. This form of lichen usually appears on the chest, hips, or limbs, and is not unfrequently mistaken for ringworm.

Lichen strophulosus is a variety peculiar to infants. Dermatologists recognize several subdivisions of this species, but the general characteristics are the same in all. The pimples are much larger than in the other forms of lichen, of a vivid red color and the duration of the eruption is limited to two or three weeks.

Lichen urticatus is also an infantile affection and begins with inflammation, which is soon succeeded by the eruption. In a few days the pimples shrink, the redness disappears, and the skin has a peculiar bleached appearance. The eruption is attended by an intense itching sensation and, if the skin is ruptured, a small quantity of blood is discharged and a black scab formed. This variety of lichen is very obstinate and of long duration.

Lichen tropicus, popularly known as *prickly heat*, is an affection which attacks Europeans in hot climates. It is characterized by the appearance of numerous red pimples of an irregular form, distributed over those portions of the body usually covered by the clothing. It is attended with a fierce, burning, itching sensation, which is aggravated by warm drinks, friction of the clothing, and the heat of the bed. The eruption indicates a healthy condition of the system; its suppression or retrocession is an unfavorable symptom, denoting some internal affection such as deranged nutrition.

In *lichen planus*, as the term indicates, the pimples are flattened. There is no sensation of itching or formation of scabs. The pimples are solitary and have an angular base, and the fresh pimples formed

Plate II.

Fig. 6.

Fig. 7.

Fig. 8

Fig. 9

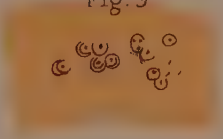


Fig. 10.

Fig. 11

Fig. 12

Fig. 13

appear on the spaces between the former eruptions. This affection usually attacks some particular region, such as the abdomen, hips, or chest. Instances are recorded in which it has appeared on the tongue and the lining membrane of the mouth. Sometimes it appears in patches, but even then, the margin of each pimple can be discerned.

Lichen pilaris and *lividus* are modifications of lichen simplex, the former being so named to describe the location of the pimples, *i. e.*, surrounding the minute hairs which cover the body, especially the lower limbs. The term *lichen lividus* indicates the dark purplish hue caused by a torpid circulation and the consequent change of arterial into venous blood before leaving the pimples. *Lichen circinatus* is a modified form of *lichen circumspectus*. The pimples in the center of the circular patch subside and a ring is formed which gradually increases in size. When the rings become broken or extend in regular forms, the affection is termed *lichen gyratus*.

Causes. Constitutional debility predisposes the system to this eruption. The exciting causes are irritation of the skin, strumous diathesis, dentition, and any violation of hygienic rules. Although lichen is not a fatal disease, yet it tends to reduce the vitality of the system.

Impetigo. (*Crusted Tetter* or *Scall.*) Impetigo is a term applied to an inflammation of the skin, more severe and energetic in its character than the preceding affection. We have found the predominating characteristics of eczema and lichen to be the presence of exudation in the former, and the absence of it in the latter.

Impetigo is marked by the formation of yellow pus, which raises the cuticle into pustules. There is a slight swelling, redness, and the pus gradually dries up, forming an amber-colored crust, a representation of which is given in Colored Plate I, Fig. 5. It soon falls, leaving the skin slightly inflammed, but with no scar. The pustules are sometimes surrounded by a cluster of smaller ones.

The varieties of impetigo are designated according to the distribution of the pustules. *Impetigo figurata*, is characterized by the appearance of large clusters upon an inflamed and swollen surface, generally upon the face, but sometimes upon the scalp. This form is represented in Colored Plate I, Fig. 4. In *impetigo sparsa* the pustules are scattered over the whole body.

Causes. The predisposing cause of impetigo is nutritive debility, and the exciting causes are irritation, impure air, and errors of diet.

Gutta Rosacea is a *progressive* disease, and its successive stages of development mark the several varieties, such as *gutta rosacea*, *erythematosa*, *papulosa*, *tuberculosa*, *pustulosa*, according as they are characterized by redness, pimples, tubercles, or pustules. This affection is attended with heat, itching, and throbbing. The pustules contain serous lymph, which exudes if the cuticle be broken, and forms a crust at the summit of the pustule.

This eruption often appears on the face of persons addicted to intemperate habits, and has thus received the name of "*rum blossom.*"

Cause. It is essentially a chronic affection, and depends upon constitutional causes.

Scabies. (*Itch.*) This disease is characterized by a profuse scaliness of the skin, by an eruption of pimples, vesicles, and, in rare instances, of pustules. Its prominent feature is an intense itching, so aggravating that, in many instances, the skin is torn by the nails. Unlike other diseases of the skin, it is not due to inflammation, but is caused by animalculæ, or little parasites, termed by naturalists the *acarus scabiei.* This minute animal burrows in the skin, irritating it, and thus producing the scaliness and itching. The vesicles are comparatively few in number, and contain a transparent fluid. The pustules are only present in the severest forms or when the skin is very thin and tender. It is then termed *pustular itch.*

The parts usually affected are the hands, flexures of the joints, and the genital organs. Cases are recorded, in which scabies appeared upon the face and head, but they are of rare occurrence. The activity of the animalculæ, is modified by the vitality of the victim. In persons of a vigorous constitution, they will rapidly multiply, and, in a few days after their first appearance, will be found in almost every part of the body.

Scabies is not confined to any age or sex, but chiefly affects persons of filthy habits. This disease can only be communicated by contact, or by articles of clothing worn by an infected person. There are certain indications which predispose the system to infection, such as robust health, a hot climate, and uncleanliness.

Treatment. In all the varieties of eczematous affections, except scabies, the treatment of which will hereafter be separately considered, remedies employed with a view to the removal of the constitutional fault are of the greatest importance. The eruption upon the skin is but a local manifestation of a functional fault, which must be overcome by alterative remedies. All the excretory organs should be kept active. To open the bowels, administer a full cathartic dose of Dr. Pierce's Pleasant Pellets. Afterwards they should be used in broken doses of one or two daily, in order to obtain their peculiar *alterative* effects. The use of Dr. Pierce's Golden Medical Discovery is also necessary to secure its constitutional remedial benefits. As a local corrective to relieve the itching and disagreeable dryness of the skin, add half an ounce of blood-root to half a pint of vinegar, steep moderately for two hours, strain and paint the affected parts once or twice daily with the liquid. Every night before retiring, apply glycerine freely to all the affected parts, or dissolve one drachm of oxalic acid in four ounces of glycerine and anoint the skin freely. The white precipitate ointment, obtainable at any drug store, is an excellent application in most forms of eczema. A tea, or infusion, of

black walnut leaves, applied as a lotion to the affected parts, has also proved beneficial. The surface of the body should be kept clean by frequent bathing, and thus stimulating its capillary vessels to healthy activity. The eczematous surfaces should not be bathed frequently, and never with harsh or irritating soaps. All varieties of eczematous affections, except scabies, are only temporarily relieved by external applications, while the *radical cure* depends upon a protracted use of alterative, or blood-cleansing medicines. Therefore, we would again remind the reader of the necessity of keeping the bowels regular, and removing all morbid taints of the blood and faults of the secretory organs by the persistent use of Dr. Pierce's Golden Medical Discovery.

The successful treatment of scabies, or common itch, generally requires only local applications, for the object to be obtained is simply the destruction of the little insects which cause the eruption. Happily, we possess an *unfailing specific* for this purpose. Numerous agents have been employed with success, but *Sulphur* enjoys the greatest reputation for efficacy, and, since it is perfectly harmless, we advise it for this class of disease. Take a quantity of pulverized sulphur and mix with sufficient vaseline or lard to form an ointment. Having first divested the body of clothing, anoint it all over freely, and rub the ointment thoroughly into the pores of the skin while standing before a hot fire. The application should be made at night before retiring, and the patient should wear woolen night-clothes or lie between woolen blankets. In the morning after the application, the patient should take a warm bath, washing the skin thoroughly and using *plenty of soap.* This treatment should be repeated two or three times to be *certain* of a *perfect eradication* of the disease. After this course of treatment, the wearing apparel as well as the bed-clothes should be thoroughly cleansed, as a precaution against a return of the disease.

ERYTHEMATOUS AFFECTIONS.

The prominent features, eruption, and itching of *eczematous* affections are purely local. *Erythematous* affections are, however, remarkable for their symptoms of constitutional disorder. Each of these affections is preceded by intense febrile excitement and nervous debility. In brief, the local manifestations are simply signs of general internal disorders; hence, the treatment should be directed to the restoration of the system. This group includes *erythema*, *erysipelas*, and *urticaria*.

Erythema. A vivid and partial flushing of the face is produced by a superficial inflammation of the skin, termed *erythema*. There are many stages of this disease, from the instantaneous transient flush caused by emotional excitement, to the protracted inflammation and swelling of *erythema nodosum*.

The affection is characterized by a flush which is at first a bright vivid scarlet, but which changes to a deep purplish tint. There is a slight elevation of the skin, sometimes accompanied by itching. In the second stage of development, the flush subsides, the skin has a yellowish or bruised appearance, and a few minute scales are formed. In *erythema papulosum*, a fine representation of which is given in Colored Plate III, Fig. 18, there is an eruption of red pimples or pustules. The prominent feature of *erythema nodosum*, a variety of erythema which affects those portions of the skin exposed to the sun, is the appearance of a large swelling, usually lasting four or five days and attended by constitutional symptoms, such as nausea, fever, languor, and despondency. The disease is associated with the symptoms incident to a disordered nervous system and sometimes results fatally, in other cases, it terminates in melancholy and mania.

Causes. The predisposing causes of erythema are constitutional debility, changes of climate and temperature, and irritating food or medicines. Locally, it may be produced by friction and the heat of the sun.

Erysipelas. There are few adult persons in this country who have not, by observation or experience, become somewhat familiar with this disease. Its manifestations are both constitutional and local, and their intensity varies exceedingly in different cases. The constitutional symptoms are usually the first to appear, and are of a febrile character. A distinct chill, attended by nausea and general derangement of the stomach is experienced, followed by febrile symptoms more or less severe. There are wandering pains in the body and sometimes a passive delirium exists. Simultaneously with these symptoms the local manifestations of the disease appear. A red spot develops on the face, the ear, or other part of the person. Its boundary is clearly marked and the affected portion slightly raised above the surrounding surface.

Plate III

Fig. 14.

Fig. 15.

Fig. 16.

Fig. 20.

Fig. 17.

Fig 19.

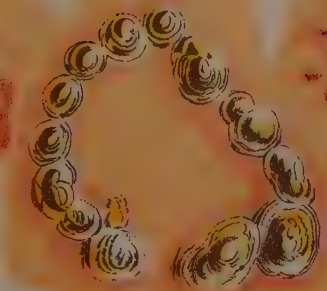
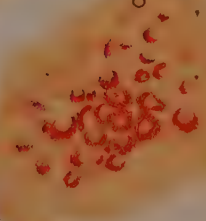


Fig 18.



It is characterized by a burning pain and is very sensitive to the touch. It is not necessary for the information of the general reader that we should draw a distinction between the different varieties of this malady. The distinctions made are founded chiefly upon the *depth* to which the morbid condition extends, and not on any difference in the *nature of the affection.*

Suppuration of the tissues involved is common in the severer forms. Should the tongue become dark and diarrhea set in, attended with great prostration, the case is very serious, and energetic means should be employed to save life. A retrocession of the inflammation from the surface to a vital organ is an extremely dangerous symptom.

The disease is not regarded as contagious, but has been known to become epidemic.

Urticaria. (*Hives, or Nettle-Rash.*) This word is derived from *urtica*, signifying a nettle; it is a transient affection of the skin, indicated by a fierce, burning, itching sensation and a development of pustules, or white blotches of various forms. A representation of this eruption is given in Colored Plate III, Fig. 17. It is appropriately named nettle-rash, from its resemblance to the irritation caused by the sting of a nettle. There is the same sharp, tingling sensation and a similar white wheal or blotch, caused by the muscular spasm of the corium, a layer of the skin.

Urticaria may be either acute or chronic. Acute urticaria is always preceded by febrile symptoms and the attack is indicated by a sudden congestion of the skin, followed by a slight swelling or elevation of the affected part. When the congestion subsides, the skin has a bruised appearance. In chronic urticaria, the febrile symptoms are absent.

Causes. The exciting causes of urticaria are gastric disorder, irritation of the mucous membrane, or a sudden nervous shock. The predisposing causes are conceded to be assimilative and nervous debility. Hence, it frequently accompanies purpura or land scurvy and rheumatism. The skin in some persons is so susceptible to irritation that urticaria can be kindled at any moment by excitement, as an animated conversation, or by the simple pressure of the hand.

Treatment. The proper treatment for simple erythema consists in applying to the affected parts a little lime-water, or sweet-oil, or glycerine, with the use of warm baths and mild cathartics. This is generally sufficient to effect a cure, if followed up with the persistent use of Dr. Pierce's Golden Medical Discovery taken three times a day.

In *erysipelas* a hot bath, with warm, sweating teas, or, better still, Dr. Pierce's Compound Extract of Smart-weed may be given to favor sweating. The whole person should be frequently bathed with warm water rendered alkaline by the addition of saleratus or soda. The whole should be moved by a full dose of the "Pleasant Pellets." Fluid extract of veratrum viride, in doses of a drop or two every hour, will

best control the fever. The specific treatment, that which antidotes the poison in the blood, consists in administering fifteen-drop doses of the tincture of the muriate of iron in one teaspoonful of the "Golden Medical Discovery," every three hours. As a local application, the inflamed surface may be covered with cloths wet in the mucilage of slippery elm. A preparation of equal parts of sweet oil and spirits of turpentine, mixed and painted over the surface, is an application of great efficacy.

For urticaria, the "Pleasant Pellets" should be administered in sufficient doses to move the bowels, the skin bathed with warm water rendered alkaline by the addition of common baking soda or saleratus, and, if there be any febrile symptoms, a little tincture of aconite or veratrum may be administered in one drop doses once each hour. In the chronic form of the disease, the diet should be light, unstimulating, and easily digested, the skin kept clean by frequent bathing, and fresh air and outdoor exercises freely taken. The somewhat protracted use of Dr. Pierce's Golden Medical Discovery will result in the greatest benefit in this form of disease.

BULLOUS AFFECTIONS.

The distinguishing feature of this group of cutaneous affections is the formation of *bullæ*, or blebs, which are defined as "eminences of the cuticle, containing a fluid."

Herpes is an inflammation of the skin in which the eruption appears in patches of a circular form. On the second day, minute, transparent vesicles appear and gradually develop, becoming opalescent. On the succeeding days, they shrink and produce reddish brown scabs, which soon become hard and fall off, leaving deep, purplish pits. In adults, these vesicles sometimes terminate in painful ulcers, caused by an irritation of the eruption. By some practitioners, herpes is regarded as a purely nervous disorder, from the fact that it is frequently accompanied by severe neuralgic pains. These pains are not *constant*, but *occasional*, and do not appear at any definite stage of the disease. Sometimes they precede and accompany the eruption. Other instances are recorded in which they remained many years after the disease had disappeared. The local and constant pain of herpes is a severe burning, prickling, itching sensation, which remains after the scabs fall.

The three *general* forms of this disease are *herpes zoster*, *phlyctænodes* and *circinatus*.

In *herpes zoster*, or *shingles*, the clusters of vesicles encircle one-half of the body, frequently at the waist; hence, it has received the name of *zona* or *girdle*. The vesicles often develop into bullæ, and sometimes ulcerate. In *herpes phlyctænodes*, the vesicles are small, round, and irregularly distributed over the face, neck, arms, and breast. This form is accompanied by febrile symptoms and offensive excretions.

In *herpes circinatus*, or *ringworm*, the vesicles appear in circular patches, or rings. This is the mildest form of herpes, and is not attended by symptoms of constitutional disorder. The various forms of herpes are represented in Colored Plate I, Fig. 3.

Causes. Herpes is not contagious. It is caused by vicissitudes of heat and cold, violent emotions, excessive exertion, irritation of the skin, and a general atony of the system.

Miliaria is the name given to an eruption of vesicles which are larger than those of eczema, but smaller than the bullæ of herpes. At first, the serum contained in the vesicles is perfectly transparent, and reflects the red tint of the underlying skin, hence the name *miliaria rubra*. But gradually it becomes milky and opalescent, hence, the term *miliaria alba*. The vesicles of miliaria are generally solitary, and appear on those portions of the body most liable to become heated and to perspire. The eruption is preceded by chills, languor, slight fever, intense thirst, a sharp prickling sensation of the skin, and profuse perspiration. The vesicles soon desiccate and are replaced by a new crop.

Causes. Miliaria is almost universally an accompaniment of febrile disease, and all disorders in which there occurs a profuse perspiration. The causes to which it may be traced in each instance are improper diet, impure air, burdensome clothing, or strong emotions.

Pemphigus is a peculiar eruption which appears upon the limbs and abdomen. The affected part is of a bright red color, and, in a few hours, small vesicles appear containing a transparent fluid. The vesicles soon develop into bullæ, entirely covering the inflamed portion. The fluid becomes opaque and in a few hours escapes. The patch is then covered with a yellow scab. Pemphigus may be either acute or chronic. The acute form is subdivided according to the degree of inflammation, as *pemphigus pompholyx* in which it is severe, and *pemphigus benignus*, when it is mild. The bullæ of pemphigus are illustrated in Colored Plate III, Fig. 19.

Cause. Pemphigus is always caused by a vitiated state of the system.

Rupia is indicated by an eruption as large as a chestnut containing a watery fluid, which desiccates into a yellowish-brown crust. A fine representation of rupia vesicles in both stages of development, is given in Colored Plate II, Fig. 13.

Treatment. In all forms of herpes, the administration of a small dose of Dr. Pierce's Pleasant Pellets, with the use of his "Golden Medical Discovery" in one to two teaspoonful doses three times a day, will be followed by the happiest results. The skin should be kept clean by the use of the sponge-bath, rendered alkaline by the addition of common baking soda or saleratus. The portion of the body covered by the eruption, should be bathed with a solution of sulphate of zinc, one ounce to a pint of water.

Miliaria is generally associated with certain febrile diseases, and its proper treatment consists in overcoming the febrile and other constitutional symptoms which accompany the disease. A hot foot-bath and small doses of tincture of aconite, say one drop in water each hour, will suffice to remove the fever. If the stomach and bowels are in a vitiated condition, as they are apt to be, a mild cathartic dose of "Pellets" should be given.

The treatment of pemphigus should consist in frequent alkaline sponge-baths, and in covering the affected parts with poultices of slippery elm, which should be kept moist with vinegar, The constitutional treatment should embrace the persistent use of the "Golden Medical Discovery." When the disease occurs in children, it is most generally dependent upon deficient nutrition, and special attention should be given to the diet of the patient, which should be nutritious. Fresh air and outdoor exercise ought not to be neglected.

The proper treatment of rupia does not differ from that suggested for pemphigus.

NERVOUS AFFECTIONS OF THE SKIN.

In nervous affections of the skin, the natural sensibility may be increased, diminished, or perverted. These morbid impressions arise from the nervous system. Although there are several varieties of these affections, yet, being of minor importance, we shall omit their consideration and only speak of one of them in this work.

Prurigo affects the entire surface of the body and imparts to the skin a parched, yellowish appearance. It is characterized by pimples, and an intense burning, itching sensation. Rubbing and scratching only irritate the skin, which becomes covered with thin black scabs. A good representation of *prurigo* may be seen in Colored Plate II, Fig. 6. The itching sensations are sometimes caused by chilling the body, by violent exercise, and heat; allowing the mind to dwell upon the affection aggravates it. Prurigo is recognized under two forms; *vulgaris*, which is a mild form, and *senilis*, which chiefly occurs in old age, and is more severe. The external genital parts of females are frequently affected with this disease, and it is aggravated by menstruation and uncleanliness.

This affection may be due to a vitiated condition of the blood, and is common among those who are greatly debilitated. It is frequently occasioned by uncleanliness, intemperance, the use of unwholesome food, or by an impure atmosphere.

Treatment. To allay the itching, take glycerine, one ounce, add to it one drachm of *sulphite* of soda, and one ounce of rose-water, and apply this to the affected parts. A solution made with borax, two drachms, and morphine, five grains, dissolved in six ounces of rose-water, makes an excellent lotion to allay the itching. If the disease

be severe, it will be necessary to correct the vitiated condition of the blood by a protracted use of Dr. Pierce's Golden Medical Discovery, and to aid its effects, give one "Pleasant Pellet" every day, not to operate as a cathartic, but only to exert an alterative influence.

ALPHOUS AFFECTIONS.

(Scaly Skin Diseases.)

Differences of opinion exist with regard to the proper classification of these affections. We shall briefly consider *alphos*, which is sometimes confounded with *lepra*.

Alphos, which from its Greek derivation signifies *white*, is characterized by circular, slightly raised white spots. These eruptions vary in size from one line to two inches in diameter, and may be scattered over the entire surface of the body, although they most frequently appear upon the elbows and knees. Alphos may consist of a single tubercle, or of large clusters constituting patches. The scales vary in color and thickness. In Colored Plate III, Figs. 14 and 15, are fine illustrations of alphos. When a person begins to recover from this affection, the scales fall off, leaving a smooth red surface, which gradually returns to its natural color.

This disease is more liable to occur in winter than in summer, although in some cases the reverse holds true. It may disappear for a time, only to return again with renewed vigor. It is not regarded as contagious.

Treatment. Thorough and protracted constitutional treatment is required to overcome this disease. Dr. Pierce's Golden Medical Discovery should be taken internally and also applied locally to the affected parts. To every other bottle of the "Discovery" which is taken, one-half ounce of the iodide of potash may be added. One or two of the "Pellets" taken daily will prove a useful adjunct to the "Discovery."

Locally, we have sometimes applied a lotion made of oxide of zinc, one-half drachm; benzoic acid, two drachms; morphine, five grains; glycerine, two ounces. Tincture of the chloride of iron, one drachm in one ounce of glycerine, makes an excellent local application. Whatever the local treatment may be, however, we chiefly rely upon the *persistent* use of the best alteratives, or blood-cleansing medicines.

AFFECTIONS OF THE HAIR-FOLLICLES.

Favus (*Scald Head*) is a disease peculiar to the hair-follicles, and is indicated by the formation of small yellow crusts, having the form of an inverted cup. The eruption has a very offensive odor. When it appears in isolated cups, it is termed *favus dispersus*, but it often occurs in large clusters, as represented in Colored Plate II, Fig. 12,

and is then termed *favus confertus*. It generally affects the scalp, but sometimes extends to the face and neck.

Cause. Favus is caused by nutritive debility, which results in a perverted cell-growth.

Sycosis (*Barber's Itch*) is an inflammatory affection of the hair follicles of the face. The prominent features of the disease are redness and the formation of scales. It is peculiar to males. It has received various names, according to its predominating characteristics, such as *sycosis papulosa*, *tuberculosa*, and *fungulosa*. Colored Plate II, Fig. 10, is a fine illustration of sycosis as it appears on the cheek.

Causes. Various causes induce the appearance of sycosis. The general causes are nutritive debility, vicissitudes of heat and cold, and an exhausted state of the nervous system. It may also result from various chronic diseases, such as syphilis and dyspepsia.

Comedones, or *grubs*, are due to a retention of the sebaceous matter in the follicles. The sebaceous substance undergoes a change, becoming granular and somewhat hardened. It gradually extends to the mouth of the follicle, where it comes in contact with the atmosphere, and assumes a dark color, as represented in Plate II, Fig. 8. This fact, together with its peculiar form when squeezed out of the skin, has caused it to be termed *grub*. They often appear in great numbers on the face of persons whose circulation is not active, or those who are of a particularly nervous temperament. Stimulating baths and friction will prove very efficacious in removing these cylinders of sebaceous matter. If they are allowed to remain, they will produce an irritation of the skin causing an inflammatory disease known as acne, or stone-pock.

Acne or Stone-pock. In the earliest stage of congestion, acne is characterized by minute hardened elevations of the skin, as shown in Plate II, Fig. 9, and is termed *acne punctata*. As the affection progresses, a bright red pimple, Plate II, Fig. 11, appears, having a conical form, hence the name *acne coniformis*. The pimple develops into a pustule containing yellow "matter," and is then known as *acne pustulosa*. This is followed by a thickening of the tissues, termed *acne tuberculata*. When the thicker skin is removed, it leaves a deep scar, hence the term *acne indurata*.

Causes. The remote cause of acne is nutritive debility. The immediate causes are rapid growth, anæmia, improper food, errors of hygiene, mental exhaustion, and various chronic diseases.

Treatment. The treatment of favus or scald-head should be commenced by shaving the hair off close to the scalp and washing the head thoroughly with soap and water. In some severe cases, it may be necessary to soften the incrustations with poultices, following these with a free use of soap and water. Having thus exposed the scalp and thoroughly divested it of incrustations, apply to it the ointment of iodide of sulphur, which may be procured at any good drug store. It

should be gently rubbed over the parts night and morning. The scalp ought to be kept perfectly clean throughout the treatment. Instead of the foregoing, the following may be applied: Take oxalic acid, ten grains; creosote, twenty drops; water, two ounces; mix. Half an hour after using this lotion, anoint the head freely with butter or lard; it will add greatly to the efficacy of the treatment. But while local applications will relieve many skin diseases and mitigate suffering, we cannot too strongly impress upon the minds of our readers the importance, in this as in all other chronic diseases of the skin, of perseverance in the use of the best alteratives. In this class of agents Dr. Pierce's Golden Medical Discovery stands pre-eminent. Its efficacy may be increased in this disease by adding to each bottle one ounce of the acetate of potash, and, when thus modified, it may be administered in the same manner as if no addition had been made to it.

The Treatment of Sycosis should be essentially the same as that suggested for favus, and it will result in prompt relief and a permanent cure.

Treatment of Acne. In the treatment of this, as in that of other diseases, we should seek to ascertain the cause, and, when possible, remove it. Outdoor exercise, a spare, unstimulating diet, and perfect cleanliness are of the first importance. The affected parts should be bathed with warm water and Castile, or, what is better, carbolic soap. Washing the face in cold water generally aggravates the disease. As a local application to the pustules, we have used with good results the following lotion: Oxide of zinc, twenty grains; morphine, five grains; glycerine, two ounces: mix. First having washed the affected parts thoroughly, apply this compound. Our chief reliance, however, as in the preceding diseases, should be upon the persistent use of alteratives and mild cathartics or laxatives.

FURUNCULAR AFFECTIONS.

(Boil-like Affections.)

Under this head properly belong boils, carbuncles, and styes.

Boils. These annoying affections are hard, prominent, circumscribed, inflamed, suppurating tumors, having their seat in the cellular tissue beneath the skin. They vary in size from a pea to a hen's egg, and may occur on any part of the body. The color of a boil varies from deep red to mahogany. It is painful, tender, advances rapidly to maturity, becomes conical, and finally bursts and discharges bloody "matter." Through the opening, and filling the cavity, may be seen a piece of sloughing cellular tissue which is called the *core*. In from four to fifteen days, it is all expelled and the sore rapidly heals. The causes are an impure condition of the blood, which generally arises from imperfect action of the liver or kidneys.

Treatment. Spirits of turpentine applied to a boil *in its earliest*

stage will almost always cause it to disappear; but when suppuration has commenced it should be favored by the application of poultices. Next purify the blood to prevent subsequent returns to other parts of the body. For this purpose take Dr. Pierce's Golden Medical Discovery. One or two "Pleasant Pellets" each day will aid in the cure.

CARBUNCLE. (ANTHRAX.)

These are more violent, larger, and more painful than boils, which they resemble. They may spring from several small pimples which extend deep into the tissues, and on the surface frequently several small vesicles appear and break. They may discharge, through one or several openings, a thin acrid, bloody, or dark-colored fluid. They most frequently appear upon the back of the neck, back, back part of the limbs, and under the arms. Their presence is evidence of a depressed condition of vitality. These tumors vary in size from one-half an inch to six inches in diameter, and rapidly proceed to a gangrenous condition, a grayish slough being detached from the healthy tissue.

Treatment. Invigorate the system by every possible means. The bitter tonics, such as Golden Seal, Gentian, or Willow, together with quinine and iron should be used. Nutritious diet, pure air, etc., are necessary. Purify the blood to remove the causes of the disease. For this purpose, give the "Golden Medical Discovery" in as large doses as can be borne without acting too freely on the bowels. Anodynes may be necessary to overcome the pain. Poultices are useful to encourage the separation of the dead from the living tissues. Antiseptic dressings are beneficial, of which carbolic acid is to be preferred; yeast, however, may be employed.

Sometimes powerful caustics or free incisions are productive of gratifying results, if followed by appropriate dressings, but these extreme measures should only be resorted to by the direction of a physician.

For a considerable time after the urgent symptoms have subsided, the "Golden Medical Discovery" should be used, to purify and enrich the blood, and the bitter tonics and iron may be alternated with it, or be used conjointly to good advantage.

SCROFULA.

It is estimated that about one-fifth of the human family are afflicted with scrofula. A disease so prevalent and so destructive to life, should enlist universal attention and the best efforts of medical men, in devising the most successful treatment for its cure. It varies in the intensity of its manifestation, from the slightest eruption upon the skin (scrofulous eczema), to that most fatal of maladies, pulmonary consumption.

The Scrofulous Diathesis. The existence of a certain disposition or habit of body, designated as the *scrofulous* or *strumous diathesis*, is generally recognized by medical practitioners and writers as a constitutional condition predisposing many children to the development of this disease. Enlargement of the head and abdomen, fair, soft and transparent, or dark, sallow, greasy or wax-looking skin, and precocious intellect are supposed to indicate this diathesis.

The characteristic feature of this disease, in all the multifarious forms that it assumes, is the formation of tubercle, which, when the malady is fully developed, is an ever-present and distinguishing element.

Tuberculous is therefore almost synonymous with *scrofulous*, and to facilitate an acquaintance with a large list of very prevalent maladies, we may generalize, and classify them all under this generic term. As *tubercle* is frequently spoken of in works treating on medicine and surgery, playing, as it does, a conspicuous part in an important list of diseases, the reader may very naturally be led to inquire:

What is Tubercle? As employed in pathology, the term is usually applied to a species of degeneration, or morbid development of a pale yellow color, having, in its crude condition, a consistence analogous to that of pretty firm cheese. The physical properties of tubercle are not uniform, however. They vary with age and other circumstances. Some are hard and calcareous, while others are soft and pus-like. The color varies from a light yellow, or almost white, to a dark gray.

It is almost wholly composed of albumen united with a small amount of earthy salts, as phosphate and carbonate of lime, with a trace of the soluble salts of soda.

The existence of tubercular deposits in the tissues of the body, which characterizes scrofula, when fully developed, must not, however, be regarded as the primary affection. Its formation is the result of disordered nutrition. The products of digestion are not fully elaborated, and pass into the blood imperfected, in which condition they are unable to fulfill their normal destiny—the repair of the bodily tissues. Imperfectly formed albuminous matter oozes out from the blood, and infiltrates the tissues, but it has little tendency to take on cell-forms

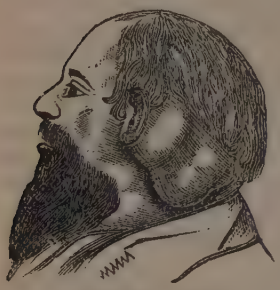
or undergo the vital transformation essential to becoming a part of the tissues. Instead of nutritive energy, which by assimilation produces perfect bodily textures, this function, in the scrofulous diathesis, is deranged by debility, and there is left in the tissues an imperfectly organized particle, incapable of undergoing a complete vital change, around which cluster other particles of tubercular matter, forming little grains, like millet seed, or growing, by new accretions of like particles, to masses of more extensive size. As tubercle is but a semi-organized substance, of deficient vitality, it is very prone to disintegration and suppuration. Being foreign to the tissues in which it is embedded, like a thorn in the flesh, it excites a passive form of inflammation, and from lack of inherent vital energy it is apt to decompose and cause the formation of pus. Hence, infiltration of the muscles, glands, or other soft parts with tuberculous matter, when inflammation is aroused by its presence, and by an exciting cause, give rise to abscesses, as in lumbar or psoas abscesses. When occurring in the joints, tubercles may give rise to chronic suppurative inflammation, as in white swellings and hip-joint disease. Various skin diseases are regarded as local expressions of, or as being materially modified by, the scrofulous diathesis, as eczema, impetigo, and lupus. The disease popularly known as "*fever-sore*" is another form of scrofulous manifestation, affecting the shafts of the bones, and causing disorganization and decay of their structure. Discharges from the ear, bronchitis, chronic inflammation of the intestinal mucous membrane, and chronic diarrhea are frequently due to scrofula, while pulmonary consumption is unanimously regarded as a purely scrofulous affection. Scrofula shows a strong disposition to manifest itself in the lymphatic glands, particularly in the superficial ones of the neck. The most distinguishing feature of this form of the disease is the appearance of little kernels or tumors about the neck. These often remain about the same size, neither increasing nor diminishing, until finally, without having caused much inconvenience, they disappear. After a time these glands may again enlarge, with more or less pain accompanying the process. As the disease progresses, the pain increases, and the parts become hot and swollen. At length the "matter" which has been forming beneath, finds its way to the surface and is discharged in the form of thin pus, frequently containing little particles or flakes of tubercular matter. During the inflammatory process there may be more or less febrile movement, paleness of the surface, languor, impaired appetite, night sweats, and general feebleness of the system. The resulting open ulcers show little disposition to heal.

Symptoms. There is a train of symptoms characteristic of all scrofulous disease. The appetite may be altogether lost or feeble, or in extreme cases, voracious. In some instances there is an unusual disposition to eat fatty substances. The general derangement of the alimentary functions is indicated by a red, glazed, or furrowed appearance of

the tongue, flatulent condition of the stomach, and bloated state of the bowels, followed by diarrhea or manifesting obstinate constipation. Thirst and frequent acid eructations accompany the imperfect digestion. The foul breath, early decay of the teeth, the slimy, glairy stools, having the appearance of the white of eggs, and an intolerable fetor, all are indicative of the scrofulous tendencies of the system.

Causes. Scrofula may be attributed to various causes. Observation has shown that ill-assorted marriages are a prolific source of scrofula. Both parents may be not only healthy, and free from hereditary taints, but robust, well-formed physically, perfectly developed, and yet not one of their children be free from this dire disease. It may present itself in the form of hip-disease, white swelling, "fever-sore," suppurating glands, curvature of the spine, rickets, ulcers, pulmonary consumption, or some skin disease, in every case showing the original perversion of the constitution and functions. Scrofula is hereditary when the disease, or the diathesis which predisposes to its development, is transmitted from one or both parents who are affected by it, or who are deficient in constitutional energy, showing feeble nutrition, lack of circulatory force, and a diminished vitality. All these conditions indicate that a few exposures and severe colds are often sufficient to produce a train of symptoms, which terminate in pulmonary or other strumous affections. Whatever deranges the function of nutrition is favorable to the development of scrofula, therefore, irregularties and various excesses tend to inaugurate it. Depletion of the blood by drastic and poisonous medicines, such as antimony and mercurials, hemorrhages and bloodletting, syphilis, excessive mental or physical labor, as well as a too early use and abuse of the sexual organs, all tend to waste the blood, reduce the tone of the system, and develop scrofula.

Fig. 1.



A Scrofulous Tumor.

Scrofula may be the consequence of insufficient nourishment, resulting from subsisting upon poor food, or a too exclusively vegetable diet, with little or no animal food.

Want of exercise and uncleanliness contribute to its production. It is much more prevalent in temperate latitudes, where the climate is variable, than in tropical or frigid regions. The season of the year also greatly influences this disease, for it frequently commences in the winter and spring, and disappears again in the summer and autumn months.

Treatment. The skin should be kept clean by means of frequent baths. These assist the functional changes which must take place on the surface of the body, permit the stimulating influence of the light

and air, and facilitate the aeration of the blood, as well as the transpiration of fluids through the innumerable pores of the skin. All exposure to a low temperature, especially in damp weather, and the wearing of an insufficient amount of clothing should be avoided. Then the food should be generous and of the most nourishing character. Steady habits and regular hours for eating and sleep must be observed, if we would restore tone and regularity to the functions of nutrition. Moderate exercise in the open air is essential, in order that the blood may become well oxygenated, that the vital changes may take place. It is no doubt true that the occasion of the prevalence of scrofula among the lower classes may be ascribed to frequent and severe climatic exposures, irregular and poor diet, or want of due cleanliness. Every well-regulated family can avoid such causes and live with a due regard to the conditions of health. The proper treatment of scrofula is important, because we meet with its symptoms on every side, showing its slow action upon different parts of the body and its influence upon all the organs. After this disease has been existing for an indefinite length of time, certain glands enlarge, slowly inflame, finally suppurate, and are very difficult to heal. These sores are very liable to degenerate into ulcers. All of these symptoms point to a peculiar state of the blood, which continually feeds and strengthens this morbid outbreak. All authors agree that the blood is not rich in fibrinous elements, but tends to feebleness and slow inflammation, which ends in maturation. Thus we may trace back this low and morbid condition of the blood to debility of the nutritive organs, defective digestion, which may be induced by irregular habits, a lack of nourishing food, or by the acquirement of some venereal taint.

The matter that is discharged from these glands is not healthy, but is thin, serous, and acrid ; a whey-like fluid containing little fragments of tuberculous matter, which resembles curd. The affected glands ulcerate, look blue and indolent, and manifest no disposition to heal. We have thus traced this disorder back to weak, perverted, and faulty nutrition, to disordered and vitiated blood, the products of which slowly inflame the glands, which strain out unhealthy, irritating, poisonous matter. The medicines to remedy this perverted condition of the blood and fluids must be alteratives which will act upon the digestive organs and tone the nutritive functions, thus enriching and purifying the blood. As this affection is frequently a complication in chronic diseases, it is eminently proper for us to refer to a few considerations involved in its general treatment.

An alterative medicine belongs to a class which is considered capable of producing a salutary change in a disease, without exciting any sensible evacuation. In scrofula, remedies should be employed which will improve digestion and also prevent certain morbid operations in the blood.

It is well known to medical men that nearly all medicines belonging

to the class of alteratives, are capable of solution in the gastric and intestinal secretions, and pass without material change, by the process of absorption, through the coats of the stomach and intestines, as do all liquids, and so gain an entrance into the general circulation ; that these same alteratives act locally to tone and strengthen the mucous surfaces, and thus promote and rectify the process of digestion before being absorbed ; that alterative medicines, when in the blood, must permeate the mass of the circulation, and thus reach the remote parts of the body and influence every function ; that these medicines, while in the blood, may combine with it, reconstruct it, and arrest its morbid tendencies to decomposition.

We should use those alteratives which give tone to the digestive and nutritive functions, in order to curtail the constant propagation of scrofula in the system ; which alter and purify the blood through the natural functions, thus reconstructing it ; and which check the septic, *disorganizing* changes which are evinced by the irritating and poisonous matter discharged from the ulcers.

These are the three ways in which medicines operate upon the nutritive functions and the blood.

Thus alteratives may be specifics, in so far as they are particularly useful in certain disorders, and the combination which has been made in Dr. Pierce's Golden Medical Discovery, excels all others with which we are acquainted, for scrofulous diseases, particularly in fulfilling the foregoing indications. It works out peculiar processes in the blood, not like food, by supplying merely a natural want, but by strengthening the nutritive functions and counteracting morbid action, after which operations it passes out of the system by excretion.

From what has been said upon the importance of blood medicines and their modes of action, the reader must not infer that we account for all diseases by some fault of the humors of the body, for we do not. But that scrofula, in its varied forms, results from imperfect nutrition and disorders of the blood, is now universally conceded. It is for this reason that neither time nor pains have been spared in perfecting an alterative, tonic, nutritive, restorative, and antiseptic compound, to which Dr. Pierce has given the name of "Golden Medical Discovery." Not only is it an alterative and a nutritive restorative, acting upon the secretions, but it opposes putrefaction and degenerative decay of the fluids and solids. Hence its universal indication in all scrofulous diseases. It will intercept those thin, watery discharges which are the result of weakness, degeneration, and putrescent decay of the blood, perpetuated by a low grade of scrofulous inflammation. By an adult it can be taken in doses of from one to two teaspoonfuls three or four times per day.

The bowels should be properly regulated. When constipation exists one or two of Dr. Pierce's Pleasant Pellets taken daily, will fulfill the indication. The patient ought not to neglect to carry out all the

hygienic recommendations heretofore given. The treatment of local tumors or running sores is very simple. Cleanse them every day with Castile-soap and water, and apply some mild ointment, such as one made by adding together one part each, by weight, of bees-wax and mutton tallow, and two parts of lard. When the glands become actively inflamed, poultices should be applied to hasten suppuration, and favor resolution. The most important part of the treatment is to keep up a persistent use of the "Golden Medical Discovery." For further instructions as to treatment see the book which is wrapped around each bottle of "Discovery."

HIP-JOINT DISEASE.

(COXALGIA.)

Hip-joint disease, also known as Coxalgia, is frequently a scrofulous affection of the hip-joint. It usually attacks children, but may occur at any period of life. The causes of this affection are imperfectly understood, yet all the indications point to a scrofulous state of the system. Dampness, cold, improper diet, severe injuries from blows or falls are all numbered among the exciting causes which are conducive to the establishment of this disease.

The Symptoms are usually developed gradually; at first there is severe pain in the knee, but finally it is located in the hip-joint. Occasionally it is noticed in the hip and knee at the same time. As the disease progresses, the general health becomes impaired, there is wasting of the muscles, wakefulness, disturbed sleep, high fever, profuse and offensive perspiration, the hair falls out, and there is an inability to move the limb without producing excruciating pain. Frequently pus will be formed and discharged at different points, and the limb will become greatly emaciated. Since pain in the knee-joint may mislead as to the location of the disease, to determine the seat of the affection, place the patient in a chair and percuss the knee lightly, by giving it a slight blow with the knuckle; if the hip be affected, the pain will be readily felt in that joint; if it be simply neuralgia of the knee-joint, it will excite no pain whatever. If the disease be allowed to progress and dislocation of the joint takes place, the affected limb becomes shortened.

Treatment. The treatment of this disease should consist in rest for the hip-joint, cleanliness of the person and plenty of fresh air and light, a nutritious diet and the use of tonics and sustaining alterative, or blood-cleansing medicines. Dr. Pierce's Golden Medical Discovery has, unaided by other medicines, cured many cases of this disease. This class of medicines should be persistently employed, in order to obtain their full effects. It is a disease which progresses slowly and which is not easily turned from its course, and its fatality should warn the afflicted to employ the best treatment.

Many poor, unfortunate victims know too well, from sad experience, that the course of treatment frequently recommended and employed by physicians and surgeons is ineffectual, and cruel; they deplete the system, apply locally liniments, lotions, iodine, and hot applications; confine the patient in bed and strap his hips down immovably, thus preventing all exercise; then they attach that cruel instrument of torture, the weight and pulley, to the diseased limb.

After many years of practical experience in the treatment of hundreds of cases, we have developed a system of treatment for this terrible malady which is based upon common sense. Instead of depleting, we, by proper constitutional treatment, strengthen and fortify the system. We do not confine the patient in bed, but permit him to go around and take all necessary exercise. We adjust an ingeniously devised and perfectly fitting appliance or apparatus, by which a gentle extension of the limb is maintained, thereby relieving the tension of the muscles, and preventing the friction and wearing of the inflamed surfaces of the joint, which, without the use of our new and improved appliance, are a source of constant irritation. The appliances required in the successful treatment of this disease are numerous and varied in their construction, and require skill and experience on the part of the surgical mechanic as well as on the part of the surgeon, to take accurate and proper measurements of the diseased limb, and to construct the appliances so that they will be adapted to the various requirements of different cases. There are no definite rules for taking these measurements, and only a thorough examination of the case can indicate to the eye of the experienced surgeon what measurements are required, and what kind of an appliance is suitable for each individual case. At the Invalids' Hotel and Surgical Institute these measurements are all taken by the surgeon in person, and each appliance is constructed under his immediate supervision. It is utterly impossible for physicians who have but a limited experience in the treatment of such cases to take correct measurements and send off for an apparatus which fulfills the requirements of the case.

In the light of our vast experience at the Invalids' Hotel and Surgical Institute, we feel that we cannot too strongly urge the employment of a suitable apparatus for supporting the hip-joint, giving it perfect rest, and enabling the patient to exercise and get the out-door air. As much of the pain in this disease is due to the pressure of the head of the *femur*, or thigh-bone, in the *acetabulum*, or socket, steadily-applied mechanical extension, to relieve the inflamed and sensitive joint of the pressure, is of the greatest importance. By such application the patient is enabled to move about without pain, while the joint is kept perfectly at rest—a condition favorable to the reduction of inflammation within it. The surgeon specialist of the Invalids' Hotel and Surgical Institute is frequently sent for to visit cases of this disease hundreds of miles away; and by the employment of suitable apparatus,

he has been enabled, in scores of cases, to relieve the suffering at once. In cases in which the head of the thigh bone, or the bony socket of the joint has become so diseased as to cause it to ulcerate and break down, all portions of diseased bone should be *thoroughly removed* by a surgical operation. If this be neglected or delayed, a fatal termination of the disease may be expected. Parents should not put off the employment of a competent specialist in this terrible, distressing, and fatal disease. As treated by general practitioners, it very often proves fatal; or, after causing intense suffering for a series of years, if the active condition of the disease subsides, the patient is left with a ruined and broken constitution, a result which more prompt and earlier relief would have prevented.

The records of practice at the Invalids' Hotel and Surgical Institute abound in reports of cases, demonstrating the fact, that by careful and judicious management, hip-joint disease in its earlier stages, may be promptly arrested, and that cures may be effected even when the bony structure of the joint is seriously diseased.

WHITE SWELLING.

White Swelling, otherwise known as *Hydrarthrus*, or *Synovitis*, more frequently affects the knee-joint than any other part. The joints of the elbow, wrist, ankle, or toes, may, however, be affected with this disease, but we shall speak of it in this connection as affecting only the knee-joint. Synovitis may be acute or chronic. The latter form is sometimes induced by blows, sprains, falls, etc., or from exposure to cold; more frequently it is the result of rheumatism or scrofula.

The Symptoms of this affection are generally slow in their appearance, being sometimes months in manifesting themselves. The joint at first presents only a slight degree of swelling, which gradually increases. Pain is soon felt, mild at first, but augmenting until it becomes severe. The skin has a smooth, glistening appearance, and there is an increased amount of heat in the parts. The affected limb becomes wasted, and is sometimes permanently flexed. There is more or less fever about the body, impairment of the digestive organs, and sleeplessness. The pulse is low but quick, and night-sweats and diarrhea often appear. Under this irritation, the patient is liable to waste away and finally die.

A *post-mortem* examination reveals the effects of the disease upon the parts attacked. The cartilages of the joint are soft, the synovial membrane is thickened, the ligaments are inflamed and often destroyed, the synovial fluid is increased in amount, sometimes normal in appearance, at others thick and viscous. If the bones be diseased, their articular extremities may be distended and fatty matter deposited in them. The conditions depend upon the form, severity, and duration of the disease.

Synovitis may be considered under three heads: Rheumatic, Scrofulous, and Syphilitic.

Rheumatic Synovitis may arise from exposure to cold, from some injury, or from intemperance in eating. The beginning of the disease may be distinctly marked, or it may come on so gradually that the time of its commencement cannot be noted. The pain is of a dull, steady character, and less severe in the night. This form of the disease sometimes terminates favorably, but in scrofulous systems it is liable to end in the destruction of the joint. It is more common in early life, rarely occurring after the thirtieth year.

Scrofulous Synovitis, or *Tuberculosis of the Knee-joint*, when of a chronic character, shows a wasting of the limb, and the swelling is of a pulpy consistence. This form of the disease is more liable to occur in children, though occasionally it is met with in adults. But little pain accompanies this form, although the limb is liable to become permanently affected. In its earlier stages this disease may be checked.

Syphilitic Synovitis is the result of syphilis. The pain is more severe during the night. It, however, generally terminates unfavorably, especially in scrofulous constitutions.

The Treatment of white swelling should be both constitutional and local. Alterative medicines are indicated to purify the blood. Doctor Pierce's Golden Medical Discovery is unequaled for this purpose.

As local treatment, in the active stage of the disease, the knee-joint should be steamed, and hot fomentations applied. This should be followed by applications over the joint of solid extract of stramonium or belladonna, mixed with glycerine. The joint should be wrapped in cotton or wool to keep it uniformly warm. If there are openings about the joint, discharging pus, syringe them out once a day with Castile soap-suds, which may be improved by adding a little bicarbonate of potash (common saleratus). See that the bowels are kept regular, and that the diet is nourishing.

Cases of this disease which have been treated at the Invalids' Hotel and Surgical Institute with uniform success might be cited to the extent of filling a very large number of pages like these. When treated by a skilled specialist, this otherwise formidable and dangerous disease is readily amenable to treatment, and good and serviceable limbs can be promised, even in the extreme cases in which amputation is usually advised by general practitioners and surgeons, who desire the glory that they imagine they will receive by performing a capital operation.

RICKETS. (Rachitis.)

Rickets is a scrofulous disease, in which there is derangement of the entire system, and it finally manifests itself in disease of the bones. It is characterized by a softening of the bony tissue, due to a deficiency of earthy or calcareous matter in their composition. It appears to be

a disease incident to cold, damp places, ill-lighted and imperfectly-ventilated rooms, and it especially attacks those who are uncleanly in their habits.

The Symptoms of rickets are severe pains in the bones, especially during the night, febrile excitement and profuse perspiration, paleness of the face, a sallow and wrinkled appearance of the skin, and derangement of the digestive organs. After a time the body becomes emaciated, the face pale, and the head unusually large. The bones become soft and unable to support the body; various distortions appear; the extremities of the long bones are enlarged, while the limbs between the joints are very slender. Rickets is a disease peculiar to childhood, though it may not be developed until a more advanced period of life. It rarely proves fatal, unless the lungs, heart, or other vital organs, become involved. In some instances the softening and other symptoms continue to increase until every function is affected, and death ensues.

Post-mortem examinations of those who have died of rickets have disclosed morbid changes in the brain, liver, and lymphatic glands. The lungs are often compressed or displaced, and the muscles of the body become pale and wasted. Sometimes the bones are so soft, on account of the deficiency of the calcareous deposit, that they can be easily cut with a knife.

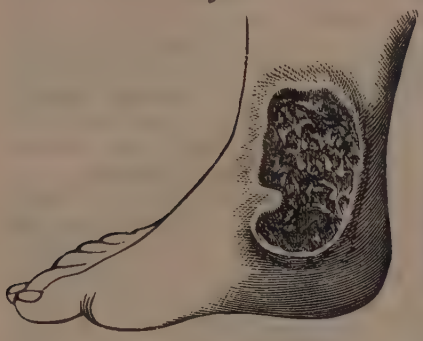
Treatment. The use of Dr. Pierce's Golden Medical Discovery is indicated in this affection. It is a disease usually developed during childhood, in consequence of insufficient exercise, deprivation of the sunlight, low, innutritious diet, and lack of cleanliness. Therefore, it is essential to obviate all known causes, and, at the same time supply the patient with food rich in those elements which the system seems to demand. Under any plan of treatment the general directions given for the hygienic management of scrofula should be followed. We might cite many cases that have entirely recovered from this disease, under our advice and the use of "Golden Medical Discovery." We shall merely say, for the encouragement of the afflicted, that this form of scrofula yields readily to this medicine.

OLD SORES. (Chronic Ulcers.)

Under this head we may properly consider that class of affections known as Fever-sores, Running-sores, Ulcers, etc. These sores have common characteristics, yet each possesses certain peculiarities, which have led to their division into *irritable*, *indolent*, and *varicose*. These peculiarities are not constant, one form of ulcer often changing into another. One feature common to all, however, is their slowness in healing, which has sometimes led to the belief that they are incurable. Another popular notion is, that their cure is detrimental to the health of the patient. With equal propriety we might say that it is dangerous to cure diarrhea, dysentery, consumption, or cancer. As a result of

these erroneous impressions, many people suffer from chronic ulcers for years, and even for a life-time, without attempting to obtain relief. Chronic ulcers usually appear upon the lower extremities. The depth and appearance of the ulcer depend upon its character and the thickness of the tissues where it is situated. Fig. 2 shows a chronic ulcer, or fever-sore, as it appears upon the ankle.

Fig. 2.



A Chronic Ulcer.

The Irritable Ulcer is painful and tender, the slightest injury causing it to bleed. It is of a dark purplish hue, and filled with spongy, sensitive granulations. It discharges a thin, bloody matter which is sometimes very fetid and acrid, and excoriates the tissues if it comes in contact with them. The edges of this species of ulcer are shelf-like and ragged, and turn inward. The adjacent structures are red and swollen. Very often they are attended by severe constitutional disturbances, such as chills, fever, and great nervous prostration and irritability.

In the Indolent Ulcer the edges are not undermined, but turned outward, and are rounded, thick, glossy, and regular. The granulations are broad, flat, pale, insensible, and covered with a grayish, tenacious matter. The surrounding parts are not very sensitive, but the limb on which it is located is apt to be swollen. This is the commonest form of ulcer, and often remains for years.

Varicose Ulcer. This species of ulcer occasions a swollen or enlarged condition of the neighboring veins, which are very much enfeebled. It almost invariably appears below the knee, and may be either indolent or irritable. It is generally sensitive to the touch, and sometimes excessively painful. Knots of superficial veins may often be seen beneath the skin.

As we have before remarked, these various species of ulcers are merely modifications of one form of chronic sore. The patient may assert that he enjoys excellent health, but if we question him closely, we find that the sore irritates him, and that there is sufficient constitutional disturbance to prevent the healing powers of nature from effecting a cure.

Treatment. The cure of these sores is necessarily slow, and whoever expects to obtain *immediate* relief will be disappointed.

Constitutional treatment is of the utmost importance, and should, therefore, be thoroughly and persistently applied. The nutritive

system, especially the absorbents, should be kept active, as these are the channels by which the broken-down tissue surrounding the sore is replaced by that of a higher grade of vitality. For this purpose, the best alteratives or blood cleansing remedies are required. If secretion and excretion are not normally performed, the blood becomes poisoned by the absorption of unhealthy "matter" from the sore, and various constitutional disturbances occur. If, at any time during treatment, constitutional disturbances are manifested by fullness or disagreeable sensations in the head, nausea, pain, cough, chills, or fever, a thorough cathartic should be given. If the patient be robust, a repetition of the same once a week will be very beneficial. Dr. Pierce's Golden Medical Discovery, and "Pellets" will be productive of the best results.

The local treatment should depend upon the character of the ulcer. If the sore be *irritable*, soothing applications, such as warm poultices or steaming in a vapor of bitter herbs, will be found highly beneficial. A poultice of powdered slippery-elm is very soothing, and hence well adapted to this purpose. If the ulcer be *indolent*, a stimulating application is necessary. The hardened, callous state of the edges should be removed by alkaline applications. A strong solution of saleratus, or even a caustic, prepared by boiling the lye from hard-wood ashes to the consistence of syrup, will prove of great utility. One or two applications of the latter are generally sufficient.

The sore and surrounding parts may then be stimulated by the application of lint saturated in the compound tincture of myrrh, which can be obtained at any drug store. If the part be flabby and the granulations indolent, the application of astringents, after cleansing the ulcer, is often followed by excellent results. An application composed of half a drachm of carbolic acid and one ounce of glycerine, will greatly hasten the healing of indolent ulcers. The sore should be so covered as to effectually exclude the light and air, and the dressing should be changed every day. Further advice will be found in the pamphlet which wraps each bottle of "Golden Medical Discovery" for the treatment of "old sores." It is advisable to occasionally replace one application by another, as the constant use of one preparation is apt to cause it to lose its effects.

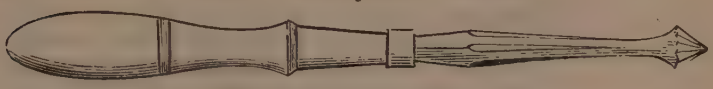
The experience of the specialists at the Invalids' Hotel and Surgical Institute, in the treatment of chronic ulcers, is very extensive, and their practice has been attended with the most successful results.

FEVER-SORE. (Necrosis.)

By the term *necrosis* we mean mortification, or the state of a bone when it is deprived of life. Dunglison says: "This condition is to the bone what *gangrene* is to the soft parts." It is popularly known as *fever-sore*, there being no distinction made between this species of sore and those ulcers which affect only the soft tissues of the body. When

any part of a bone becomes *necrosed*, it is treated as a foreign body. Nature makes an effort for its removal, and at the same time attempts to replace it with new and healthy materials. In consequence of this process, the dead portion is often inclosed in a case of new, sound

Fig. 3.



Hand drill for boring bone.

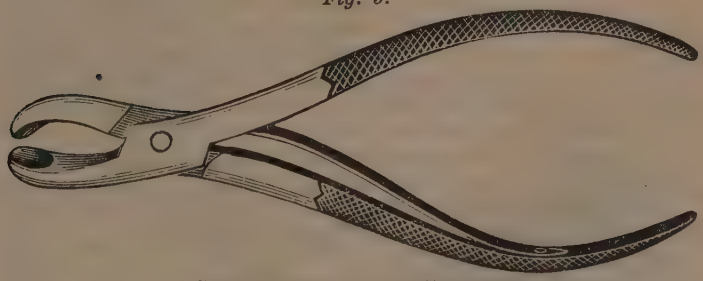
bone, termed the *involucrum;* when this is the case the dead portion is termed the *sequestrum.* If, however, it be superficial, and separate from the parts beneath, it is called an *exfoliation.* This healing process, by which the involucrum is formed, cannot be completed while

Fig. 4.

The osteotrite, for enlarging openings and cutting carious bone.

the dead portion remains. Hence, numerous openings are made through the involucrum, to permit the escape of the sequestrum. When a surgical operation is performed for the removal of the necrosed bone it is called *sequestrotomy.* The instruments which our

Fig. 5.



Gouge forceps for excavating bone.

specialists usually employ for this practice are represented in Figs. 3, 4, and 5.

Causes. Fever-sore may be due to inflammation, injuries, working in phosphorus, or from the inordinate and protracted use of mercury.

Symptoms. The pain frequently commences in the night, and all

the different stages succeed, until, finally, the result is frequently mortification or death. The entire bone, or only a part of it, may be affected; the parts become swollen, "matter" forms, and unless it be artificially evacuated, it will in time work its way out through a fistulous opening. As the disease progresses, the adjacent tissues become thickened and numerous openings are formed, which communicate with the bone, and often with each other, so that a probe may be passed from one to another, as represented in Fig. 6, copied from a drawing by Dr. Howe. The discharge from fever-sores varies in character, and usually has a fetid odor. The surgeon can readily distinguish between healthy and unhealthy bone by the use of a probe. The pus discharged in necrosis contains minute particles of bone, which may be felt by rubbing it between the fingers. Sometimes large pieces present themselves at the openings. The general health is seriously impaired, and the patient becomes debilitated, anæmic, and hectic.

Fig. 6.

Necrosis of the tibia. A common probe is passed through the sinuses, or openings.

Treatment. The process of repair is necessarily tedious, and nature should be assisted to remove the old bone and promote the formation of the new. An alterative course of treatment is indicated and must be persistently followed. Give Dr. Pierce's Golden Medical Discovery and Pleasant Pellets in sufficient doses to keep the bowels regular. However, all efforts to heal the sores, as long as dead bone remains, will prove fruitless. The sores should be throughly cleansed with injections of an alkaline solution, after which bandages, moistened with glycerine, may be applied. If they emit a fetid odor, add a few drops of carbolic acid to the glycerine. The dead bone can be but slowly removed by suppuration, therefore time, and, indeed, sometimes life itself, may be saved by removing it with surgical instruments. In the operation of sequestrotomy, the surgeon must exercise great judgment. Carelessness may prolong the disease and subsequently necessitate another operation, or, perhaps, an amputation.

Usually the dead bone is easily removed by the skilled specialist surgeon, and, when thoroughly taken out, the parts readily heal and the patient rapidly recovers. The removal, therefore, of the dead bone which is a constant source of irritation, and the cause of protracted suffering, should not be delayed, for very rarely indeed can it be removed at all without the assistance of the surgeon. Besides, delay often results in the loss of the limb, and not unfrequently occa-

sions the death of the patient. Under the influence of a reliable local *anæsthetic*, carefully applied, the operation of removing the decayed and offensive bone is speedily and painlessly performed, the use of chloroform or ether not generally being required.

TESTIMONIALS.

If the following letters had been written by your best known and most esteemed neighbors they could be no more worthy of your confidence than they now are, coming, as they do, from well known, intelligent and trustworthy citizens, who, in their several neighborhoods, enjoy the fullest confidence and respect of all who know them.

Out of thousands of similar letters received from former patrons, we have selected these few at random, and have to regret that we can find room only for this comparatively small number in this little book.

BLOOD DISEASE.

Raw Sores from Knee to Ankle.

MASTER AMASA PECK.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Dear Sirs—My little boy, Amasa Claude Peck, was severely stricken with what the doctors called erysipelas. We had employed two doctors for months without any effect, until he commenced taking your Dr. Pierce's Golden Medical Discovery. Two bottles effected a cure. His leg was raw from his knee to his ankle; it has never broken since, which has been several years. The same medicine also did great things for my now deceased husband in a case of erysipelas of long standing. Respectfully yours,

MRS. A. B. PECK,
Ranger, Eastland Co., Texas.

My daughter Mrs. Jennie Rice, was cured of catarrh in her head by using the "Discovery" with Dr. Sage's Catarrh Remedy. She derived great benefit from your medicines and gives the privilege of using her name.

A. B. P.

ANÆMIA—IMPOVERISHED BLOOD.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663 Main St., Buffalo, N. Y.:

Dear Sirs—Ten or twelve years ago I had a combination of diseases. Our family physician said I was bloodless and there was no hopes of my recovering. My mother advised me to consult you, which I did. After one month's treatment I was on foot again; it was truly astonishing how speedily I found relief after taking your preparations. I have also used your "Favorite Prescription" and "Golden Medical Discovery," which proved very beneficial.

MRS. ADDIE R. KNIGHT,
Corapeake, Gates Co.,
North Carolina.

MRS. KNIGHT.

J. SMITH, ESQ.

ERYSIPELAS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I am glad to say that the use of your medicine has saved me many doctors' bills, as I have for the past eleven years been using it for the erysipelas and also for chronic diarrhea, and am glad to say that it has never failed. I have also recommended it to many of my neighbors, as it is a medicine worth recommending.

I give you the privilege of using my name.

Yours truly,
JOSEPH SMITH,
Mineral Point, Tuscarawas Co., O.

BLOOD AND KIDNEY DISEASE.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—I had been an invalid for nineteen years and had all the doctors in our country prescribe for me, but they could not say just what ailed me. When I wrote you giving the history and symptoms, you diagnosed my case as disease of the blood and kidneys, and advised me to try your "Golden Medical Discovery" and "Pellets" and I feel confident your medicines *saved my life*, and I hope all sufferers from kidney and blood diseases will try your valuable medicine.

Respectfully yours,
T. H. EDMUNDSON, Postmaster,
Home, Marshall Co., Kans.

MR. EDMUNDSON.

ECZEMA—SUFFERINGS INTENSE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

Gentlemen—About five years ago I was taken with a discoloration of the skin on my legs and arms, which in a short time terminated in the most aggravated eczema. My sufferings were intense, and no relief did I experience, until I commenced the use of your preparations. I have taken five bottles of the "Golden Medical Discovery," and more than that number of the "Pellets," and believe that I am entirely cured. I never feel the least itching, or burning, which was at one time so unbearable. My appetite and digestion are splendid, and, although I will be seventy years old my next birthday, I am as hearty and strong as most men of fifty.

Very truly yours,
JOSEPH P. DELANO,
Warsaw, Richmond Co., Va.

J. P. DELANO, ESQ.

Mr. G. MILTON SYDNOR, Druggist, of *Warsaw, Richmond Co., Va.*, writes: "My friend, Mr. J. P. Delano, has requested me to write you in confirmation of his statement, which I cheerfully do. I know Mr. Delano well personally, and can testify to the correctness of his statement.

His case of eczema was the worst that I had ever seen. I saw him often during the time he was afflicted, as he came to my store often after medicine. He purchased the "Discovery" and "Pellets" from me, and has been one of the strongest champions of your medicines, and thus aided me very much in their sale. I am quite sure that he has been the means of my selling several dozens of that preparation."

WM. RAMICH, ESQ.

BOILS CURED.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I was troubled with boils for thirty years. Four years ago I was so afflicted with them that I could not walk. I bought Dr. Pierce's Pleasant Pellets, and took one "Pellet" after each meal. The boils soon disappeared and have had none since. I have also been troubled with sick headache. When I feel the headache coming on, I take one or two "Pellets," and am relieved of it."

Respectfully yours,
WILLIAM RAMICH,
Minden, Kearney Co., Neb.

A TERRIBLE SKIN DISEASE.

Jackson, N. C.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Dear Sirs—I had been troubled with skin disease all my life. As I grew older the disease seemed to be taking a stronger hold upon me. I tried many advertised remedies with no benefit, until I was led to try your "Golden Medical Discovery." When I began taking it my health was very poor; in fact, several persons have since told me that they thought I had the consumption. I weighed only about 125 pounds. The eruption on my skin was accompanied by severe itching. It was first confined to my face, but afterwards spread over the neck and head, and the itching became *simply unbearable*. This was my condition when I began taking the "Discovery." When I would rub the parts affected a kind of branny scale would fall off.

For a while I saw no change or benefit from taking the "Discovery," but I persisted in its use, keeping my bowels open by taking the "Pellets," and taking as much outdoor exercise as was possible, until I began to gain in flesh, and gradually the disease released its hold. I took during the year somewhere from fifteen to eighteen bottles of the "Discovery." It has now been four years since I first used it, and though not using scarcely any since the first year, my health continues good. My average weight being 155 to 160 pounds, instead of 125, as it was when I began the use of the "Discovery."

Many persons have reminded me of my improved appearance. Some say I look younger than I did six years ago when I was married. I am now forty-eight (48) years old, and stronger, and enjoy better health than I have ever done before in my life.

Yours truly,

J. A. Buxton.

BAD CASE OF ECZEMA OR SALT-RHEUM.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I was troubled with eczema, or salt-rheum, seven years. I doctored with a number of our home physicians and received no benefit whatever. I also took treatment from physicians in Rochester, New York, Philadelphia, Jersey City, Binghamton, and received no benefit from them. In fact I have paid out hundreds of dollars to the doctors without benefit. My brother came to visit us from the West and he told me to try Dr. Pierce's Golden Medical Discovery. He had taken it and it had cured him. I have taken ten bottles of the "Discovery" and am entirely cured and if there should be any one wishing any information I would gladly correspond with them, if they enclose return stamped envelope.

Very truly yours,
MRS. JOHN G. FOSTER,
33 Chapin Street, Canandaigua, N. Y.

MRS. FOSTER.

ERYSIPELAS AND WOMB DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

MRS. WHITE.

Gentlemen—I am forty-eight years old, and have had four children. Three years ago the doctor said I had womb trouble, which was accompanied with backache and a tired and miserable feeling all over; left side hurt me very much, and could not lie on that side, and the doctor said it came from affection of the spleen; had a great deal of headache; was costive, and suffered terribly from erysipelas; it nearly set me crazy, so great was the burning and itching; sometimes experienced severe burning in the stomach. I took twelve bottles of your medicines, six bottles of Dr. Pierce's Golden Medical Discovery and the same amount of his "Favorite Prescription." Was using them for about six months, and can say that they did their work well. I have ever since felt like another person, and do not think I can say enough in their praise. I have no more weakness, and all evidence of erysipelas has disappeared.

Respectfully yours,

MRS. SARAH E. WHITE,

Kennon, Belmont Co., Ohio.

ECZEMA.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—About four years ago my daughter, Helen G. Harris, was afflicted with Eczema in a distressing form. She tried medicines too numerous to mention, but they did no good. I told her that I would write to Dr. Pierce, which I did, and after a few months' use of his medicines she was entirely cured. I believe your medicines unequaled.

MRS. JNO. H. RICHARDSON, a widow living near Wakefield, Va., a few years ago, was in extremely bad health, and used your proprietary medicines with entire success.

Respectfully yours,

THOMAS HARRIS,

Wakefield Station, Sussex Co., Va.

MISS HARRIS.

SALT-RHEUM—FLESH CRACKED OPEN AND BLED.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

MISS CLARK.

Gentlemen—It gives me pleasure to express my faith in the virtue of Dr. Pierce's Golden Medical Discovery. Having suffered for three years from salt-rheum and after having been unsuccessfully treated by a good physician, I began the use of the "Discovery." The humor was in my hands. I was obliged to keep a covering on them for months at a time, changing the covering morning and night. The stinging, burning and itching sensation would be so intense that at times it seemed as if I would go crazy. When I bent the fingers the flesh would crack open and bleed. It is impossible for me to describe the intense pain and suffering which I endured night and day. After taking six bottles of the "Discovery" I was entirely cured.

Respectfully yours,

MISS LOTTIE CLARK,

River Falls, Pierce Co., Wis.

INVETERATE SKIN DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

Gentlemen—I desire to state that I am perfectly well and very thankful to you for curing me. The medicines which I used for two months only have effected a perfect and permanent cure of my case. My face looks as well as ever.

M. ALLEN, ESQ.

I was six weeks under treatment at the Invalids' Hotel and Surgical Institute, and I got first-class accommodation.

The case was a strange one. The pimples did not break out on my chin where I had let my beard grow, they broke out on my cheeks, forehead and nose. A doctor in San Francisco told me it was blood poison and said it was very hard to cure it. I think if it were blood poison it would run all through my system. When I first felt the disease coming on in winter—my face used to be very cold. I worked under the sun fourteen years every summer. I wore no hat—nothing but a skull cap. I thought I was sun-proof. The doctor in San Francisco stopped the disease for one year but it came back again. I had it for five years. It came on from hard work and exposure in the sun.

When my face would break out in the fall it got so itchy, and then little pimples would break out on my face, nose and forehead. I think parasites were in my face. If I would drink a glass of beer, I would feel the effects of it in my face, and tobacco would affect me just the same. My face, nose and forehead would be spotted all over like a "fiddler's note book," every fall for five years. I never saw a case like mine. The doctor said if I would get tanned with the sun I would be all right.

In the kind of work I had to do, I could wear no hat.

Respectfully yours, MICHAEL ALLEN,
Oro Fino, Siskiyou Co., Cal.

CURES BROWN SPOTS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663 Main St., Buffalo, N. Y.:

Gentlemen—I can say that my health is better now than for the last fifteen years. I cannot say what my disease was, but I was as spotted as a leopard with brown spots; I was so miserable and nervous, and could not sleep. I took Dr. Pierce's Golden Medical Discovery one year, and the brown spots all disappeared and I am well. Have not taken any medicine in two years. I think the "Golden Medical Discovery" a splendid medicine for stomach, liver and skin disease. I got no help from the other doctors. I used only the "Golden Medical Discovery."

MRS. JOHNSON.

Yours truly,
MRS. WILLIAM JOHNSON,
P. O. Box 183, Owosso, Shiawassee Co., Mich.

SCROFULOUS DISEASE.

MRS. NICHOLS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663 Main St., Buffalo, N. Y.:

Dear Sirs—I was sick eight long years with the scrofulous humor and I used Dr. Pierce's Golden Medical Discovery and it cured me. I used five bottles and I have used it since for other troubles. It has helped me wonderfully, in fact cured me, and I recommend it to all my friends.

Yours most gratefully,
MRS. MARY E. NICHOLS,
Bay Shore, Suffolk Co., N. Y.

"HEART-RENDING TO BEHOLD."

Terrible Suffering from Skin Disease.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

MASTER PAYNE.

Gentlemen—My baby when about three months old began to have little sores come out on his face; did not amount to much until six months old, then they began to spread all over his face and head until his face, head and ears were one solid sore. Our family physician was summoned at the early stages of the disease and tried everything he knew of for the cure of the same, but nothing did him any good. The disease baffled the skill of the doctor in every way, and I was advised by friends to try certain remedies, which I did, with very little effect. The child by this time was a heart-rendering sight to behold, and suffered unknown agonies with the torturing itching and burning of the sores, and so things ran on until my brother, who resides in Buffalo, visited me. As soon as he saw the child he advised me to have him treated at the Invalids' Hotel and Surgical Institute in Buffalo. I wrote to them stating my baby's case, asking them if they could help him, and they thought they could, so began their treatment at once by using salves externally and medicine internally and as soon as they began their treatment the child began to improve and continued so until he was entirely cured in six months' time. He is now two years and six months old and is as tough as any child you ever saw; weighs thirty-five pounds and is perfectly well, thanks to Dr. Pierce and his wonderful medicines.

Yours truly, MRS. A. L. PAYNE,
Box 147, Oxbow, Jefferson Co., N. Y.

SCROFULOUS ABSCESSES.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.

MRS. SWEENEY.

Gentlemen—About four years ago I took scrofula, and did everything that doctors and others prescribed, but only got worse. Several abscesses formed about my neck and breast, discharging a quantity of matter. I got so weak I could scarcely walk about the house. I read all the medical works I could get hold of, and, among the rest, read some of your works. You described my case, and recommended Dr. Pierce's Golden Medical Discovery with his "Pleasant Pellets." So I procured some and commenced using them and soon began to mend. In six months my sores were all healed up, and in twelve months *I was entirely well.* I am forty-five years old and believe I am as stout as I ever was in my life. I used about one dozen bottles of the "Golden Medical Discovery" with the "Pellets," and used nothing else after I began using your medicines. So I must give your medicine all the praise for curing me, and I am bound to recommend it.

Yours truly, MRS. BELLE SWEENEY,
Flat Top, Mercer Co., W. Va.

CROSS EYES.

Convergent Strabismus. Instant and Painless Cure.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

D. CRANE, ESQ.

Gentlemen—I am happy to certify to your skill. I had been afflicted with badly crossed eyes from my birth, and my sight was impaired, and I was badly disfigured. By a painless operation my eyes were instantaneously restored to a proper position and my sight much improved.

Your Hotel and skillful surgery merit every recommendation.

Yours truly,
DAVID CRANE,
Spring Creek, Warren Co., Pa.

SCROFULOUS SORE EYES.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

MISS GARDNER.

Gentlemen—When I was two years old my eyes broke out in little white pimples and itching all the time in the mornings; when I awakened my eyes would have to be washed open; I could not see and when they were washed open the corruption would run down my face and drop off. I have tried all of our physicians and their medicine did me no good. A physician attended them from Ellicott City and did them no good. He said it was the running scrofula in the eyelids and could never be cured; it had continued fourteen years, and I had given up all hopes of ever being cured until I saw your advertisement of the "People's Common Sense Medical Adviser," and I sent and got one, and I saw a great deal in it about the eyes. I wrote to you about them and you prescribed for me. Now my eyes are quite well. Some advised me to wear glasses, but you said not. I have been a great sufferer but am glad to say you did me all the good that I have received.

Respectfully yours,
MISS VIRGINIA M. GARDNER,
Mayo, Anne Arundel Co., Md.

WEAK AND SORE EYES.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—After taking Dr. Pierce's Golden Medical Discovery for four weeks, at a cost of only $1.50, I am more than pleased to announce that my eyes are perfectly well and strong as ever. I doctored and fussed with quack medicines for about one year and a half and found no relief. Finally I consulted your "Medical Adviser" and found a case similar to mine so I wrote and got a speedy reply. I followed directions, which resulted in a speedy cure as above.

Yours truly,
JOHN CASSERLY, JR.,
Westline, Redwood Co., Minn.

JOHN CASSERLY, JR.

RUNNING SCROFULOUS SORES.

H. M. HOLLEMAN, ESQ.

DR. R. V. PIERCE: *Dear Sir*—When about three years old I was taken with mumps, also had fever, finally I had that dreaded disease Scrofula. The most eminent physicians in this section treated me to no avail. I had running scrofulous sores on left side of neck and face. I was small and weakly when eight or nine years old, and in fact was nearly a skeleton. Six bottles of Dr. Pierce's Golden Medical Discovery wrought marvelous changes. Although the sores were healed in eight months, I did not quit taking it until I was sure it had been entirely routed from my system. The only signs left of the dreadful disease are the scars which ever remind me of how near death's door I was until rescued by the "Discovery." I am now eighteen years old and weigh 148 pounds; and have not been sick in five years.

Respectfully, HARVEY M. HOLLEMAN,
Wilmington, Newbern & Norfolk Railway Co.,
Wilmington, New Hanover Co., N. C.

"FEVER SORES."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—My daughter who is now 18 years of age was attacked with a severe pain and swelling in her ankle, which soon caused her to have high fever. We employed some of the best physicians in this locality who pronounced it rheumatism, did everything for her they could do, but she kept getting worse from day to day, and in about five weeks after she was first taken sick her ankles and legs came open and discharged a lot of yellow matter and finally slivers of bones came out of the openings in her ankles. All the doctors we consulted said that we would have to have an operation performed on her and have the dead bones taken out, or else she could not get well, with the exception of one of the doctors who said that if her health could be improved the dead bones would come out and be replaced with new ones, for the dead pieces would brake loose from the sound bone and come out through the opening with the matter; but he could not do anything to improve her health.

MISS SCHROER.

After doctoring her three months she was reduced to a mere skeleton and had to be tended to like a mere baby and have her feet elevated, or else she would scream with pain. We commenced giving her Dr. Pierce's Golden Medical Discovery. After using it for one month we could see, for the first time, that she was getting no worse, and after using about five bottles her health began to improve a little; but she still suffered with pain and could not have her feet down until she had taken twelve bottles. When she had taken fifteen bottles—she began to walk on crutches, and later with a cane, for about two or three months, when she could walk without a crutch or cane. The diseased bones gradually came out in pieces, some of them an inch to two inches long and one-fourth of an inch thick; the sores healed as soon as the last dead bone was out. She is now a strong healthy young lady as her photograph plainly shows.

Respectfully yours,
D. R. SCHROER,
Holstein, Warren Co., Mo.

GENERAL DECLINE, RUNNING SORE ON LEG.

Fort Coulonge, Pontiac Co., Quebec.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Thanks be to God, and you, I have the best of health since I have taken your special medicine and one bottle of "Favorite Prescription." I was as weak as any person could be without dying, and I am as healthy as any person can be to-day, and I have gained ten pounds since, and a great many people remark to me how much better I look.

Also, I can mention to you another person who was cured by your "Golden Medical Discovery." His name is John McCoy. For near two years he never walked. He suffered from a running sore on his leg. and after using twelve bottles, he could walk all right and is well to-day. The doctors wanted to have it taken off. You say in your letter you would like to have a photograph. I have none and there is no photograph gallery in this village or I would have one taken.

Yours truly,

Mrs Isaac Brady

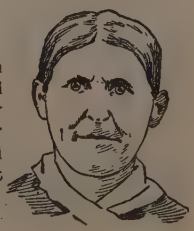
"FEVER SORES" AND ECZEMA.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—I suffered for one quarter of a century with "fever-sore" (ulcer) on my leg and eczematous eruptions and gave up all hope of ever being well again. But I am happy to say that your Dr. Pierce's Golden Medical Discovery made a complete cure of my ailments, although I had tried different doctors and almost all known remedies without effect.

Yours truly,

MRS. CAROLINE WEEKLEY
Carney, Baldwin Co., Ala.



MRS. WEEKLEY.

"FEVER SORES" OR INDOLENT ULCERS—DROPSY AND TORPID LIVER.

MR. FRED. PESTLINE.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—I write in regard to your great "Golden Medical Discovery." I cannot be thankful enough to you for what it has done for me. As a result of the grippe I had dropsy, and ulcers formed on my legs with a most intolerable itching at night after going to bed. My circulation was very poor and liver inactive. I feel perfectly well since I took the medicine. The old sores on my legs are all healed up, and I feel like a new man. I highly recommend your "Golden Medical Discovery" to any inquiring person, for it has saved my life.

Yours very truly,

FRED. PESTLINE,
Alexander, Genesee Co., N. Y.

RUNNING SORE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—It pleases me to state that I had a running sore up on my neck, and had it operated upon three times, and still it was not cured. I was also run down very much. There was a decided change after using Dr. Pierce's Golden Medical Discovery. I took a few bottles and was soon cured. Later my husband had a lump behind his ear; he tried your medicine, and one bottle cured him. I shall always recommend your medicines.

Yours respectfully,

MRS. L. KUHN,
No. 618 E. 16th St.,
New York City.

MRS. KUHN.

"OLD SORES" ON LEGS.

Alexander, N. C.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—Your "Golden Medical Discovery" has proven a blessing to me. It was recommended to me by Rev. P. A. Kuykendall. I have been a sufferer with old sores on my legs for four years. I used three bottles of it, and my legs are sound and well and my health is better than it has been for some time. I had the best doctors of this country treat my case and they failed to effect a cure.

Yours respectfully,

J. N. Kuykendall

E. J. RUSH, ESQ.

HIP-JOINT DISEASE.

Physicians Fail to Benefit.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—At the age of eight years I became afflicted with "Hip-joint Disease." For a year I suffered as much as it was possible for a human being to suffer. My physicians told me I would have to wait patiently, but my father procured me some of Doctor Pierce's Golden Medical Discovery, and I found my failing health restored.

I can cheerfully say that I believe I owe my life to the use of that valuable medicine.

Your true friend,

EDWARD J. RUSH,
Elizabeth, Harrison Co., Ind.

HIP-JOINT DISEASE CURED.

Miss MARY E. RIDGLEY, of *Gales Creek, Washington Co., Oregon*, when only three years old, had lameness in one of her lower limbs but the use of liniment and Dr. Pierce's Pellets relieved her, and she got better. When six years old the trouble developed into hip-joint disease, so pronounced by her physician. She lost the use of the limb. Was three months under the doctors, but got no better. She complained of great pain in the limb, especially in the knee and hip. The limb wasted away, becoming small and short, and her back became crooked. She had no appetite; was very weak. Hip and knee were very tender to the touch. Physician's treatment not helping her, her mother began to give her "Golden Medical Discovery." Four months afterwards she wrote Dr. Pierce as follows: "She is growing fast, and never complains of any pain or ache. She sleeps well, and eats heartily. Her leg has filled up, and is as big as the other. She plays around all day with the other children. Everybody is astonished to see how she has improved."

MISS RIDGLEY.

In the margin we print Miss Ridgley's picture as she appears twelve years after this treatment, at the age of eighteen. The young lady herself, writes Dr. Pierce as follows: "Your medicines are worth their weight in gold. I was cured of hip-joint disease by the "Golden Medical Discovery" and "Pellets," and I feel sure that they can cure the worst cases if given a chance."

HIP-JOINT DISEASE OF 11 YEARS' STANDING.

P. O. Box 128, Gagetown, Tuscola Co., Mich.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—When I began taking your medicines I was in bed, nothing would relieve me, my hip being swelled seemingly ready to burst. When I began to take Dr. Pierce's Golden Medical Discovery and "Pellets," the swelling gradually decreased; when I had taken one bottle I was able to be up. I don't know how long I will remain well, but I am satisfied that it is the medicine that did the work; I take it right along; as long as I can keep the way I am now, I am satisfied. I have recommended your remedies, and will continue to do so.

Yours truly,

H. F. Giron

THICK NECK (GOITRE).

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

Gentlemen—I am willing and pleased to have you publish anything I have written in regard to the cure of my little son of Goitre (that a surgeon of N. Adams said could never be cured).

I do hope that by so doing some little one may escape the misery my little one suffered for over a year until I began the use of the "Golden Medical Discovery." I followed your directions found in the little book around the bottles. Before the first bottle was gone, he could eat and sleep without that coughing and choking that, before the use of the "Discovery," was impossible.

The tumor began to lessen in size, and after the third bottle I would never have known he ever had a tumor there. He is now hearty and healthy. Sleeps as good as any child and is full of life. He does not take anything to prevent a return, and has not for over a year.

MASTER SUMNER.

I have one of your Common Sense Medical Advisers, and found it worth five times what I gave for it; I have helped others to get it and the "Medical Discovery" and "Favorite Prescription" have brought relief to many through me. I use the "Prescription" off and on; it has given me strength; I think I should have been an invalid long ago without it.

Every one here knows the truth of this letter, and I would tell it to the world if I could. Respectfully,

MRS. ANNIE SUMNER, Heartwellville, Bennington Co., Vt.

MISS HOUGHTON.

THICK NECK (GOITRE),

Nervous Debility and Weakness Cured.

MISS ELLA A. HOUGHTON, of *Theresa, Jefferson Co., N. Y.*, was cured of Thick Neck, Nervous Prostration, Weakness and a complication of ailments by Dr. Pierce's "Discovery" and "Favorite Prescription." She says: "My health is now as good as it was before I was sick. The swelling (goitre) has all gone from my neck. I don't have any bad feelings. My gratitude for the benefit I have received from your treatment has induced me to recommend you to all whom I know to be sick." "I have known of two or three middle aged ladies residing near here, who have been cured by your 'Favorite Prescription.'"

GOITRE CURED.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,

Buffalo, N. Y.:

Dear Sirs—I can say that your medicine has done its work well in the case of my sister, Miss Rachel Mann. She is entirely well of Goitre and throat trouble. I am glad to say that we can recommend your medicines very highly.

Very truly yours,

MARY J. MANN,

for sister Rachel Mann,

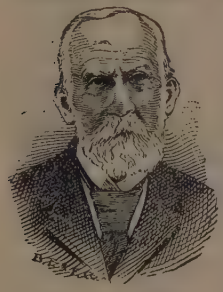
Romola, Center Co., Pa.

MISS RACHEL MANN.

CARBUNCLES LARGE AS HEN'S EGGS!

Eight or Ten Years Afflicted. Two Bottles only, Cure.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:



COL. T. U. FOGG,

Gentlemen—For about eight or ten years my father was laid up with carbuncles, the worst that I ever saw. He tried everything he heard of, and his doctor did everything he could for him, but nothing did him any good. Had six or seven carbuncles at a time, as large as a hen's egg; he got so weak and suffered so much he could not walk a step. It was in the summer of '72 or '73 that he had his bed put in the middle of his chamber and got on it to die. No one expected him to get well. Looking over the newspapers, he saw your "Golden Medical Discovery" advertised, and the good it had done. There was not any sold then in the country, so he sent to Richmond—forty-five miles—and got a bottle. When he began to take it he was nearly covered with carbuncles—little and big together. Before he had taken half-a-bottle they began to go away. Before he had taken two bottles he was entirely cured, and he has never been bothered with them since. Every time he sees any sign of them, he gets a bottle of "Golden Medical Discovery" and it cures them. My father, Col. T. U. Fogg, lives in West Point, King William Co., Va. He is now seventy-eight years old, and enjoys good health.

Yours truly,

MRS. NANNIE GOULDMAN,

Beulahville, King William Co., Va.

THICK NECK. (Goitre.)

Thick neck, or goitre, also sometimes called bronchocele, consists of an enlargement of the thyroid gland, which lies over and on each side of the trachea, or windpipe, between the prominence known as "Adam's apple" and the breast bone. The tumor gradually increases in front and laterally, until it produces great deformity, and often interferes with respiration and the act of swallowing. From its pressure on the great blood-vessels running to and from the head, there is a constant liability to engorgement of blood in the brain, and to apoplexy, epilepsy, etc. When the enlargement once makes its appearance, it continues to increase in size as long as the person lives, unless appropriate treatment be resorted to. It never disappears spontaneously. These tumors are much larger than those not familiar with them would suppose from their outward appearance, as they extend under and are bound down by the muscles on each side of the neck, so that they become embedded in the cellular tissues underneath, while the sides of the neck retain, to a considerable extent, their round and even appearance, whereby the real magnitude of the tumor is not apparent. Figure 7 represents the appearance of the neck of a person afflicted with this disease. The form of protuberance varies materially with different persons, that shown in the engraving being the shape which it ordinarily assumes.

Fig. 7.

The causes of the affection are not well understood. The use of snow-water, or water impregnated with some particular saline or calcareous matter, has been assigned as a cause. It has also been attributed to the use of water in which there is not a trace of iron, iodine, or bromine. A writer in a Swiss journal, *Feuilles d' Hygiene*, states that the disease is often due to an impeded circulation in the large veins of the neck, from pressure of the clothing, or from the head being bent forward, a position which is often seen in school children, when the muscles of the back of the neck have become fatigued.

Treatment. We have obtained wonderful results by a new method of treatment, which consists in the employment of electrolysis in conjunction with other therapeutic means. There is scarcely a case in which this treatment, properly carried out, will not effect a radical cure. It is attended with no danger whatever.

Those who are afflicted with this disease and unable to avail themselves of special treatment, cannot do better than to take Dr. Pierce's Alterative Extract, or Golden Medical Discovery, and apply to the skin over and around the tumor, night and morning, the following solution, which may be prepared at any drug-store: iodine, one

drachm; iodide of potassium, four drachms; dissolve in three ounces of soft water. Apply to the tumor twice a day, with a feather or hair pencil.

MUMPS. (Parotitis.)

This is an inflammation of the parotid glands and generally occurs in childhood. It is often epidemic, and is manifestly contagious. It usually, though not always, appears on both sides of the neck at the same time.

Symptoms. An external, movable swelling, just below and in front of the ear, near the angle of the jaw, is the prominent symptom. The enlargement is not circumscribed, but hard and painful, and attended with more or less fever, derangement of the secretions, and difficulty in swallowing. The swelling increases until the fourth and fifth day, when it gradually diminishes, and by the eighth or tenth is entirely gone. Sometimes the disease is accompanied by swelling of the breasts in the female, or the testicles in the male.

Treatment. Usually but little treatment is necessary. Exposure to cold should be avoided. If severe or painful, with febrile symptoms, a hot foot-bath and small doses of the "Compound Extract of Smart-Weed," in some diaphoretic infusion, to induce sweating, together with small doses of aconite, will produce good results. If swelling of the testicles threatens (which seldom happens except on taking cold), resort should be had to mild cathartics, the spirit vapor-bath, stimulating liniments to the neck, and warm fomentations to the part attacked. If delirium occurs, a physician should be summoned.

INFLUENZA, OR LA GRIPPE.

This is an infectious disease, characterized by depression, and usually associated with a catarrhal condition of the mucous membrane. It may affect the respiratory organs or the intestinal canal. There is a marked liability to serious complications, of which pneumonia is the most dangerous. The disease is evidently due to a specific virus of great infectiveness, and is more active and contagious at certain seasons and under certain conditions of the atmosphere. By some it has been supposed that it is due to a miasma in the air, but the character of its infection indicates that the true virus is of a germinal nature.

Uncomplicated cases recover, but in the aged and in the delicate we may see fatal results, due usually to the profound depression or the high temperature to which the individual is subjected. There is much redness and swelling of the mucous membranes of the nose and throat —a bronchitis—and a catarrhal state of the stomach and intestines. These may all be present, or the disease may center upon one particular portion of the animal economy, and manifest its ravages there alone.

Symptoms. The attack usually resembles an ordinary catarrh or cold. In some cases the nasal catarrh is absent, or very mild, and the infection invades the general system, with much fever. A very striking manifestation of the disease is the severe nervous troubles which are present at the outset, consisting of headache, pain in the back and legs, and a general soreness of the muscles and bones as if bruised or beaten. The pulse is usually feeble and small—intermittent. The disease may center in the brain, producing delirium. Mental disorders are not uncommon, and there is usually following the disease more or less inaptitude for mental work and a tendency to depression of spirits. In many cases there is a severe diarrhea, and the individual suffers much from pain and discomfort in the abdomen. This is a gastro-intestinal irritation, and apparently favors an early recovery, and usually there are less severe sequels in such cases.

The most dangerous complication is pneumonia. These cases may follow bronchitis, or the grip may begin with well-characterized symptoms of this disease, for which see the chapters upon this trouble. The sputa may not be rusty until after several days. The crisis is usually slow, and a considerable proportion recover, the disease frequently showing a sudden change for the better, and the patient being up and around in a few days. Cases complicated with pneumonia are the most indefinite in their symptoms, and require the closest attention.

Treatment. In every case the disease must be regarded as a dangerous one, and the patient be confined to bed and indoors until all fever has disappeared, otherwise sudden and serious manifestations are liable to appear at any time. The patient must be well fed and nourished from the outset. The bowels should be acted upon by mild laxatives, such as castor oil or Dr. Pierce's Pleasant Pellets, using from one to three. It is also of advantage afterward to move them twice each day, by the injection of warm water, to which has been added a teaspoonful of table salt to each pint. This injected into the rectum, using the water slightly tepid, or cool if the patient is feverish, will tend to soften the actions from the bowels and favor the escape of poisonous matter. The cool water has also a soothing effect upon the fever and nervous system. If the fever is high, and there is delirium, small doses of aconite, with water, should be used every half hour or hour, but all depressing agents of this kind must be used with caution, as profound prostration sometimes develops. Warm baths, repeated frequently, and followed by hot lemonade, are of the greatest benefit in reducing the feverish condition and quieting the patient. The bed should be warmed after these are administered and the patient given hot lemonade to bring on free action of the skin, kidneys, and bowels. Where the pulse is weak, the free use of stimulants, as wine, coffee, tea, and brandy or whiskey, are required, as the great danger of the disease is a depression of the heart. In severe bronchitis, pneumonia, and other complications, appropriate treatment should be applied.

ACUTE NASAL CATARRH.

Acute Nasal Catarrh, or cold in the head, is an acute inflammation of the mucous membrane lining the nasal passage which may confine itself to these parts or extend to the pharynx, larynx, and air-passages below, or affect the auxiliary sinuses or cavities communicating with the nasal passages.

The most frequent cause of cold in the head is exposure to sudden changes in temperature, or draughts of cool air, without taking proper precaution to protect the body so as to prevent the rapid radiation of animal heat. In most cases there is an inherited tendency or acquired weakness, which frequently may be associated with a scrofulous condition of the whole system, that render these points less resistant, and consequently invite the morbid changes which result from exposure and cold. Acute Catarrh also occurs during the initial stage of such eruptive diseases as measles, typhus, typhoid, erysipelas, etc.

Seldom do we meet with an otherwise healthy individual, who is subjected to a frequent cold in the head. Impure blood, inherited scrofulous taints, enfeebled circulation, debility, either general or nervous, are all advance agents, inviting catarrhal disease, and preventing rapid recovery from an acute attack, so that a low grade of Chronic Catarrh is generally the sequence.

Symptoms. The attack is usually ushered in by a chill, or chilly sensation, feeling of lassitude, followed by a slight fever. These symptoms are not as distressing as the sense of fullness about the eyes and frontal region, and prickling dry heat, with more or less obstruction in the nostrils. A few hours later follows a copious, acrid watery discharge, which gradually becomes thick and yellow. Often the inflammatory action may extend to the orifice of the eustachian tube, causing obstruction with temporary deafness, or ringing in the ears. Severe facial neuralgia may be caused by the pressure from the swollen parts upon the branches of sensitive nerves.

Treatment. In the mild forms of acute catarrh, or coryza, only simple treatment is required. A hot foot-bath on retiring at night, with a full dose of Dr. Pierce's Compound Extract of Smart-weed, to produce free perspiration will generally break up the attack. Should the discharge from the nostrils continue, Dr. Sage's Catarrh Remedy should be freely used four to six times each day, until the symptoms are controlled. In case the bowels do not act, a full dose of Dr. Pierce's Pleasant Pellets may be taken at bedtime. Avoidance of exposure to cold, and light vegetable diet, are advisable. In the more severe attacks, especially when complicated by laryngeal or bronchial symptoms, the most decisive measures should be employed. The Compound Extract of Smart-weed should be taken freely, together with

hot drinks, or a hot general bath. The patient should be warmly covered in bed to encourage a continued perspiration, to equalize the circulation, and subdue the inflammation. Dr. Pierce's Golden Medical Discovery should be taken in teaspoonful doses four times each day in all cases that are complicated or protracted.

Individuals suffering from frequent colds will do wisely to fortify their systems by taking a few bottles of the "Golden Medical Discovery" to improve nutrition, purify the blood, and thus aid nature in overcoming such inherited tendency or acquired weakness as may be their misfortune to possess. Remember frequent attacks of Acute Catarrh prepare fertile soil for the chronic form which oftentimes is so loathsome and destructive.

CHRONIC NASAL CATARRH.

OZÆNA.

In consequence of repeated attacks of acute catarrh, or "cold in the head," as it is usually termed, the mucous membranes of the nose and the air-passages of the head become permanently thickened, the mucous follicles or glands diseased, and their functions either destroyed or very much deranged. Although chronic catarrh is most commonly brought on in the manner above stated, it sometimes makes its appearance as a sequel of typhoid fever, scarlet fever, measles, or other eruptive fevers, or shows itself as a local manifestation of scrofulous or syphilitic taints in the system.

Injury to the nose may result in a displacement of one or more of the bony structures, setting up a chronic inflammation with catarrh at that point. In the early stages of the disease, the patient may be annoyed with "only a slight dropping into the throat," as many express it, the amount of the discharges from the air-passages of the head at this stage of the disease being only slightly in excess of health. In some cases the discharge is thick, ropy, and tough, requiring frequent and strong efforts in the way of blowing and spitting, to remove it from the throat, in which it frequently lodges. In other cases, or in other stages of the same case, the discharge is thin, watery, acrid, irritating, and profuse. The nose may be "stopped up" from the swollen and thickened condition of the lining mucous membrane, so as to necessitate respiration through the mouth, giving to the voice a disagreeable nasal twang. From the nature of the obstruction in this condition, it is useless for the sufferer to endeavor to clear the passage by blowing the nose; this only tends to render a bad matter worse, by increasing the irritation and swelling of the already thickened lining membrane. The swelling of the mucous membrane does not in all cases become so great as to cause obstruction to respiration through

the affected passages. In some cases, the patient suffers from headache a great portion of the time, or experiences a dull, heavy, disagreeable fullness or pressure in the head, with a confusion of his ideas, which renders him quite unfit for business, especially such as requires deep thought and mental labor. Memory may be more or less affected, and the disposition of those who are otherwise amiable is often rendered irritable or morose and despondent. The mental faculties suffer to such an extent in some cases as to result in insanity. The sense of smell is in many cases impaired, and sometimes entirely lost, and the senses of taste and hearing are not unfrequently more or less affected.

Ozæna. The ulcerous or more aggravated stage of the disease, from the offensive odor that frequently attends it, is denominated *Ozæna*.

The secretion which is thrown out in the more advanced stages of chronic catarrh becomes so acrid, unhealthy, and poisonous, that it produces severe irritation and inflammation, which are followed by excoriation and ulceration of the delicate membrane which lines the air-passages in the head. Although commencing in this membrane, the ulceration is not confined to it, but gradually extends in depth, until it frequently involves all the component structures of the nose—cartilage and bone, as well as fibrous tissues. As the ulceration extends up among the small bones, the discharge generally becomes profuse and often excessively fetid, requires the frequent use of the handkerchief, and renders the poor sufferer disagreeable to both himself and those with whom he associates. Thick, tough, brownish incrustations, or hardened lumps, are many times formed in the head, by the evaporation of the watery portion of the discharge. These lumps are sometimes so large and tough that it is with great difficulty that they can be removed. They are usually discharged every second, fourth, or fifth day, but only to be succeded by another crop. Portions of cartilage and bone, or even entire bones, often die, slough away, and are discharged, either in large flakes, or blackened, half-decayed, and crumbly pieces; or, as is much more commonly the case, in the form of numerous minute particles, that escape with the discharge and are unobserved. It is painfully unpleasant to witness the ravages of this terrible disease, and observe the extent to which it sometimes progresses. Holes are eaten through the roof of the mouth, and great cavities excavated into the solid bones of the face; in such cases only the best and most through treatment will check the progress and fatal termination of the disease.

COMPLICATIONS.

Catarrh, or ozæna, is liable to be complicated, not only by the system, blood, and fluids, suffering from scrofulous or other taints, as has already been pointed out, but also by an extension of the diseased conditions to other parts beyond the air-passages of the head.

Occasionally deformities of the septum or other internal structures,

also polypi or tumors, are sources of constant irritation and accelerate catarrhal disease.

Disease of the Throat. The acrid, irritating and poisonous discharge, which, in some stages of disease, almost constantly runs down over the delicate lining membrane of the *pharynx* (throat), is liable to produce in this sensitive membrane a diseased condition similar to that existing in the air-passages of the head. The throat may feel dry, husky, and at times slightly sore or raw; or, from the muco-purulent discharge that is almost constantly dropping down over its surface, the patient may feel very little inconvenience from the disease of the throat until it is far advanced—the moistening and lubricating effect of the matter that drops on the surface tending to blunt the sensibility of the parts. (*See pharyngitis for symptoms and treatment.*)

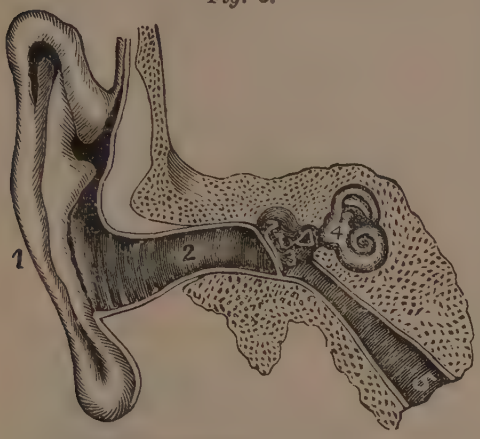
The Extension of the Disease to the Larynx. The larynx, situated directly below the pharynx (throat), is subjected to the influence of the same irritation from acrid and poisonous discharges dropping into the throat from the head. More or less of it is removed by hawking and spitting, but some remains and is drawn into the larynx, or still lower into the trachea (windpipe), with the inspired air. Thus the disease creeps along the continuous mucous surfaces of the air-passages, the acrid poisonous discharge arousing in its track the irritation, inflammation, ulceration, and thickening of the lining membrane which characterize the disease in other portions of the air-passages. The symptoms and treatment of laryngitis will be found under its appropriate classification.

Bronchitis and Consumption. We have already detailed the manner in which the throat, larynx, and trachea, in succession, become affected from catarrh, or ozæna. By the same process of extension, the bronchial tubes, and lastly, the *parenchyma*, or substance of the lungs, in their turn, become diseased, and bronchitis and consumption are firmly established. Tightness in the chest, with difficulty of breathing; soreness; darting, sharp, or dull, heavy pain, or a prickly, distressing sensation, accompanied with more or less cough and expectoration—are evidences that the bronchial tubes have become affected, and they should admonish the sufferer *that he is now standing on the stepping-stone to* CONSUMPTION, over which thousands annually tread, in their slow journey to the grave.

Deafness. By means of a small canal, called the *eustachian tube*, an air-passage and communication between the throat and middle ear is formed. (See Fig. 8, on page 477.) This passage is lined by a continuation of the mucous membrane which covers the throat and nasal passages. The catarrhal inflammatory process, by continuity of surface, follows the mucous membrane, thickening its structure, until the eustachian tube is closed, and the beautiful mechanism of the internal ear is rendered useless. While the thickening of the mucous membrane is going on, and the passage is gradually becoming closed (and

this process sometimes extends through several years), the patient will occasionally, while blowing the nose, experience a crackling in one or both ears, and hearing becomes dull, but returns suddenly, accompanied with a snapping sound. This may be repeated many times, until, finally, hearing does not return, but remains permanently injured. In other cases the hearing is lost so gradually that a considerable degree of deafness may exist before the person is really aware of the fact. Either condition is often accompanied with noises in the head, of every conceivable description, increasing the distress of the sufferer. The delicate bones of the ear are sometimes detached from their articulations, the drum is ulcerated and perforated, and through the orifice thus made, the bones or small *spiculæ* may escape with the thick, purulent, and offensive discharge.

Fig. 8.



Internal and external ear. *1*, External ear. *2*, Internal auditory meatus. *3*, Tympanum. *4*, Labyrinth. *5*, Eustachian tube.

Closure of the Tear Duct. The lachrymal duct, or passage (tear duct), which, when in a healthy condition, serves to convey the tears from the eye into the nose, may be closed by the same inflammatory and thickening process which we have already explained. This condition is usually attended with watery and weak eyes, the tears escaping over the cheeks, and sometimes producing irritation and excoriation. The nasal branch of the ophthalmic nerve sometimes participates in the ulceration going on in the head, so that the eyes are sympathetically affected. They sometimes become congested or inflamed, and sharp pain in the eyeballs may be experienced.

Indigestion, Dyspepsia, Etc. A large portion of the acrid, poisonous, purulent discharge, which drops into the throat during sleep, is swallowed. This disturbs the functions of the stomach, causing weakness of that organ, and producing indigestion, dyspepsia, nausea, and loss of appetite. Many sufferers complain of a very distressing "gnawing sensation" in the stomach, or an "all gone," or "faint feeling," as they often express it.

Symptoms. Dull, heavy headache through the temples and above

the eyes; indisposition to exercise; difficulty of thinking or reasoning, or concentrating the mind upon any subject; lassitude; indifference respecting business, lack of ambition or energy; obstruction of nasal passages; discharges voluntarily falling into the throat, sometimes profuse, watery, acrid, thick and tenacious, mucous, purulent, muco-purulent, bloody, concrete blood and pus, putrid, offensive, etc. In others, a dryness of the nasal passages: dry, watery, weak, or inflamed eyes; ringing in the ears, deafness, discharge from the ears, hawking and coughing to clear the throat, ulcerations, death and decay of bones, expectoration of putrid matter, *spiculæ* of bones, scabs from ulcers leaving surface raw, constant desire to clear the nose and throat, voice altered, nasal twang, offensive breath, impairment or total deprivation of the sense of smell and taste, dizziness, mental depression, loss of appetite, nausea, indigestion, dyspepsia, enlarged tonsils, raw throat, tickling cough, difficulty in speaking plainly, general debility, idiocy, and insanity.

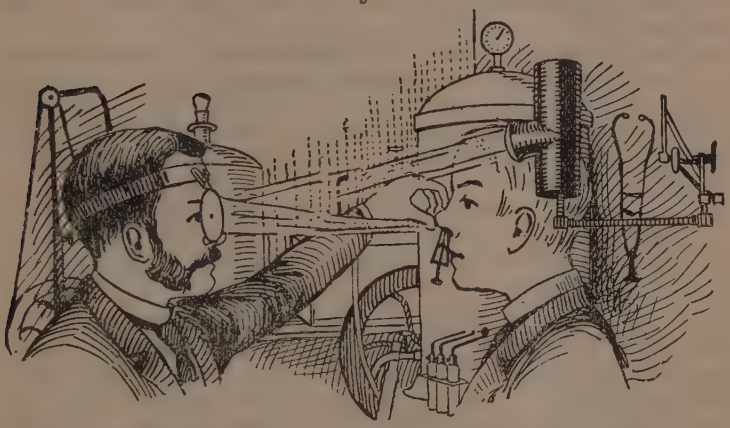
All the above symptoms, as well as some others which have been previously given, and which it is not necessary here to repeat, are common to this disease in some of its stages or complications; yet thousands of cases annually terminate in consumption or chronic bronchitis, and end in the grave, without ever having manifested one-half of the symptoms enumerated.

Varieties. People often suppose that there are a great many varieties or species of catarrh. This is an error. The nature of the disease is the same in all cases, the symptoms only varying with the different stages of the disorder, and the various complicated conditions which are liable to arise, and which have already been pointed out.

Causes. Anything which debilitates the system, or diminishes its powers of evolving animal heat and withstanding cold or sudden changes of atmospheric temperature, and other disease-producing agencies, renders the individual thus enfeebled very liable to catarrh. Among the most common debilitating agencies are a scrofulous condition of the system, or other impurities of the blood, exhaustive fevers, and other prostrating acute diseases, or those badly treated; exhaustive and unnatural discharges, intemperance, excessive study, self-abuse, adversity, grief, want of sleep, syphilitic taints of the system, which may have been contracted unknowingly, or may have been inherited, having perhaps been handed down even unto the third or fourth generation, to an innocent posterity from infected progenitors; too sudden rest after great and fatiguing exercise, and living in poorly-ventilated apartments. These are among the most fruitful causes of those feeble, deranged, or impure conditions of the system to which catarrh so frequently owes its origin. Although the immediate or exciting cause is generally repeated attacks of "cold in the head," which, being neglected or improperly treated, "go on from bad to worse," yet the predisposing or real cause of the disease is, in the majority of cases,

an enfeebled, impure, or otherwise faulty condition of the system, which invites the disease, and needs only the irritation produced in the nasal passages by an attack of cold, to kindle the flame and establish the loathsome malady. Some people are convinced with difficulty that there exists in their system a weakness, impurity, or derangement of any kind, which permitted the disease to fasten itself upon them. They may not feel any great weakness, may not have any pimples, blotches, eruptions, swellings, or ulcers, upon their whole person; in fact, nothing about them that would, except to the skilled eye of the practical and experienced physician, indicate that their system is weakened or deranged with bad humors; and yet such a fault may, and generally does, exist. As an ulcer upon the leg, or a "fever-sore," or

Fig. 9.



Examination of the Nasal Passages by means of the Rhinoscope and Head Mirror.

an eruption upon the skin, may be the only outward sign of a fault in the system, so frequently chronic catarrh is the only sign by which a bad condition of the system manifests itself in a manner that is perceptible to the sufferer himself, or to the non-professional observer. The finely-skilled physician, whose constant practice makes his perceptive faculties perfect in this direction, would detect the constitutional fault, as an experienced banker detects a finely-executed and dangerous bank-note which the unpracticed eye would pronounce genuine.

Treatment. If you would remove an evil *strike at its root.* As the predisposing or real cause of catarrh is, in the majority of cases, some weakness, impurity, or otherwise faulty condition of the system, in attempting to cure the disease our chief aim must be directed to the removal of that cause. The more we see of this odious disease, the more do we see the importance of combining with the use of a local, soothing

and healing application, a thorough and persistent internal use of blood-cleansing and tonic medicines.

As a local application for healing the diseased condition in the head, Dr. Sage's Catarrh Remedy is beyond all comparison the best preparation ever invented. It is mild and pleasant to use, producing no smarting or pain, and containing no strong, irritating, or caustic drug, or other poison. Its ingredients are simple and harmless, yet when scientifically and skillfully combined, in just the right proportions, they form a most wonderful and valuable healing medicine. Like gunpowder, which is formed of a combination of saltpeter, sulphur, and charcoal, the ingredients are simple, but the product of their combination is wonderful in its effects. The Remedy is a powerful antiseptic, and speedily destroys all bad smell which accompanies so many cases of catarrh, thus affording great comfort to those who suffer from this disease.

The reader's mind cannot be too strongly impressed with the importance of combining thorough constitutional with the local treatment of this disease. Not only will the cure be thus more surely, speedily, and permanently, effected, but you thereby guard against other forms of disease breaking out, as the result of humors in the blood or constitutional derangement or weakness.

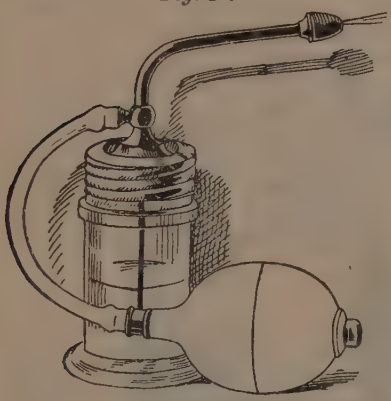
In curing catarrh and all the various diseases with which it is so frequently complicated, as throat, bronchial, and lung diseases, weak stomach, catarrhal deafness, weak or inflamed eyes, impure blood, scrofulous and syphilitic taints, the wonderful powers and virtues of the "Golden Medical Discovery" cannot be too strongly extolled. It has a specific effect upon the lining mucous membranes of the nasal and other air passages, promoting the natural secretion of their follicles and glands, thereby softening the diseased and thickened membrane, and restoring it to its natural, thin, delicate, moist, healthy condition. As a blood-purifier, it is unsurpassed. As those diseases which complicate catarrh are diseases of the lining mucous membranes, or of the blood, it will readily be seen why this medicine is so well calculated to cure them.

The "Golden Medical Discovery" is the natural "helpmate" of Dr. Sage's Catarrh Remedy. It not only cleanses, purifies, regulates, and builds up the system to a healthy standard, and conquers throat, bronchial, and lung complications, when any such exist, but, from its specific effects upon the lining membrane of the nasal passages, it aids materially in restoring the diseased, thickened, or ulcerated membrane to a healthy condition, and thus eradicates the disease. When a cure is effected in this manner it is permanent. The system is so purified, regulated, and strengthened, as to be strongly fortified against the encroachments of catarrh and other diseases. The effects of the "Golden Medical Discovery" upon the system will be gradual, and the alterative changes of tissue and function generally somewhat slow. They are

not, however, less complete, radical, and lasting; and this constitutes its great merit. Under its influence all the secretions are aroused to carry the blood-poisons out of the system, the nutrition is promoted, and the patient finds himself gradually improving in flesh; his strength is built up, his lingering ailments dwindle away, and by and by he finds his whole person has been entirely renovated and repaired, he feels like a new man—a perfect being.

The Clothing. With most persons suffering from chronic nasal catarrh, there is a great disposition to take cold, even slight causes being sufficient to produce an acute attack, which greatly aggravates the chronic affection and operates to render it permanent. To obviate the bad effects that are liable to result from this predisposition, great attention should be paid to the clothing, that it thoroughly protects the person from sudden changes of temperature. For more particular and practical suggestions in regard to this matter, the reader is referred to the article on Clothing, in Part Two, Chapter II, of "The People's Common Sense Medical Adviser."

Fig. 10.



Atomizer.

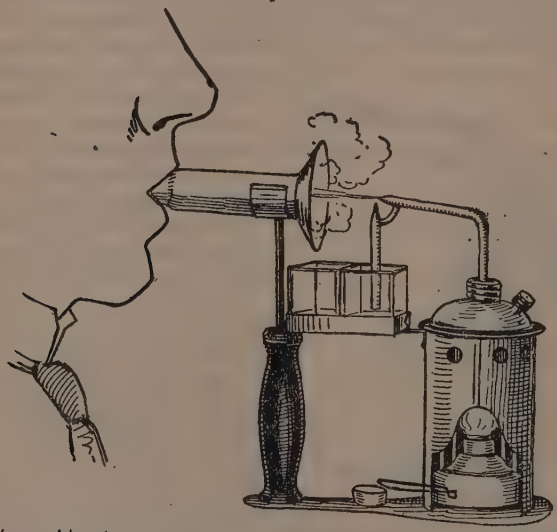
The Diet has an important influence with this disease, as with consumption and many other chronic ailments. It should be largely composed of those articles rich in the non-nitrogenized or carbonaceous elements. Fat meats, rich, sweet cream, good butter, and other similar articles of food, should comprise a large part of the diet. These elements, which are prolific in the production of animal heat, counteract the predisposition to take cold, and thus become most valuable remedial agents—not less essential than the medical treatment that has been advised. The patient, suffering from chronic catarrh, should study well the hygienic teachings to be found in Part Two of "The People's Common Sense Medical Adviser," and govern himself accordingly.

Treatment of Complications. There are various complications of this disease that require modifications of the treatment to meet them successfully. Yet rules cannot be made that would enable non-professional readers to vary the treatment to suit peculiarities of constitution, or complications of the disease. When consulted, either in person or by letter, we have been able to so modify the treatment as to adapt it to peculiar individual cases which resisted all ordinary treat-

ment, and have thus cured hundreds who had otherwise failed to find relief.

Time Required in Effecting a Cure. Reader, if you suffer from chronic nasal catarrh, do not expect to be very speedily cured, especially if your case is one of long standing. Unprincipled quacks and charlatans, who possess no knowledge of disease, or medicine either, and whose sole design is to palm off upon you a bottle or two of some worse than worthless strong, caustic solution, irritating

Fig. 11.



Steam Atomizer, illustrating position of head during treatment.

snuff, or drying "fumigator," "dry up," "annihilator," "carbolated catarrh cure," "catarrh specific," or other strong preparation, will tell you that the worst cases can be *speedily* cured by these unreasonable means. It is true that such strong, irritating, and drying preparations will many times suddenly arrest the discharge from the nose, but the thickened or ulcerated condition of the lining mucous membrane, which really constitutes the disease, is not removed by such treatment, and the discharge soon comes on again. Besides, there is danger attending the employment of such strong, irritating, or drying preparations. The disease, by their use, is frequently driven to the throat, bronchial tubes, lungs, or brain, and thus a bad matter is made worse. Not less irrational and unsuccessful is the plan of treating the disease with inhalations of "carbolized iodine," and other drugs, administered through variously-devised pocket and other inhalers. Such treatment may mask or cover up catarrh for a time;

but, by reason of the constitutional nature of the disease, it cannot effect a perfect and permanent cure. Dr. Sage's Catarrh Remedy, on the other hand, cures the disease on common-sense, rational, and scientific principles, by its mild, soothing, and healing properties, to which the disease gradually yields, when the system has been put in perfect order by the use of "Golden Medical Discovery." This is the only perfectly safe, scientific, and successful mode of acting upon and healing it. Without, we trust, being considered egotistical, we can say that this opinion is based upon a large experience and a perfect familiarity with the nature and curability of the disease. For many years our whole time and attention has been given to the study and cure of catarrh and other chronic diseases treated of in "The People's Common Sense Medical Adviser." Cases of catarrh have been treated by thousands, and our medicines for the cure of this loathsome disease, and of other chronic diseases, have met with an extensive sale in all parts of the United States, and have found their way into many foreign countries. The universal satisfaction with which their use has been attended, and the grateful manifestations received from the cured, have afforded one of the greatest pleasures of our lives. Scarcely a mail arrives that does not bring new testimony of cures effected by the treatment here recommended.

DIRECTIONS FOR USING DR. SAGE'S CATARRH REMEDY.

To prepare the medicine ready for use, put the whole quantity of powder contained in the package, as put up for sale, into a bottle; pour into it one pint of cool, soft water. Rain water or melted snow is good. Ordinary lake, river, well or spring water will do if only *slightly* hard. Cork the bottle tightly and shake it thoroughly, after which allow it to stand six or eight hours to settle. Two of the ingredients of which the remedy is composed do not entirely dissolve, but their medicinal properties are completely and speedily extracted and taken up by the water. These settlings have lost their medicinal properties and should not be allowed to enter the nasal cavity. It should be kept tightly corked, not allowing it to freeze in winter, or be kept where it is very warm in summer. This we term the "Catarrh Remedy Fluid."

Use the fluid, prepared according to the above directions, not less than three or four times a day, the last time just before retiring, in the following manner: Without shaking the bottle to roil the fluid, pour out a teaspoonful or more into the hollow of the hand, hold it there until warmed; first gently, and afterwards forcibly, snuff the fluid up one nostril and then the other, until the nose is well filled and it passes back into the throat. No fears need be entertained that it will produce strangling or any unpleasant effect in thus using it, for, unlike any

other fluids (simple tepid water not excepted), it does not produce the slightest pain or disagreeable feeling, but, on the contrary, leaves such a cooling, pleasant sensation that its use soon becomes a pleasure rather than a task. In a few minutes after thus using the remedy, it should be blown out gently (never forcibly), to clear the nose and throat of all hardened crusts and offensive accumulations, if any such exist. Never blow the nose violently, as it irritates the passages and counteracts, to some extent, the curative effects of the remedy. This process should be repeated until the remedy has been thoroughly applied two or three times, not blowing it out the last time of using it, but retaining the medicine in contact with the affected parts for a considerable length of time. No harm can result if the fluid be swallowed, as it contains nothing poisonous or injurious.

A Better Way. The manner of using Dr. Sage's Catarrh Remedy, advised above, is somewhat imperfect and not nearly so thorough a mode as the one to which the reader's attention will now be directed.

In a very large number of bad cases of catarrh, or those of long standing, the disease has crept along and extended high up in the nasal passages, and into the various sinuses or cavities, and tubes communicating therewith. The act of snuffing the fluid *carries it along the floor of the nose and into the throat*, but does not carry it *high enough*, or fill the passages *full enough*, to reach all the chambers, tubes, and surfaces, that are affected with the disease.

The fluid may seem, from the sensation produced, to pass high up between the eyes, or even above them, but it does not. It is only a sensation transmitted to these parts by nerves, the filaments of which are distributed to that portion of the mucous membrane which the fluid does not reach, just as a sensation is transmitted to the little finger by a blow upon the elbow.

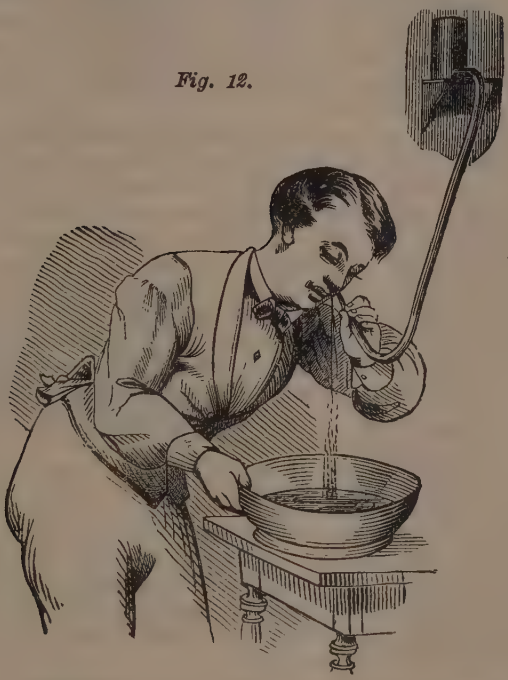
Now, in order to be most successful in the treatment of catarrh, it is necessary that *the remedy should reach and be thoroughly applied to all the affected parts.* This can be accomplished in only one way, which is by *hydrostatic pressure.* The anatomy of the nasal passages, and the various chambers and tubes that communicate therewith, is such that they cannot be reached with fluid administered with any kind of syringe or inhaling tube, or with any instrument, except one constructed to apply it upon the principle above stated. Such an instrument is Dr. Pierce's Nasal Douche.

By the use of this instrument, the fluid enters every portion of the air-passages of the head by its own weight, no snuffing being required.

DIRECTIONS FOR USING DR. SAGE'S CATARRH REMEDY WITH THIS INSTRUMENT.

To cleanse out the passages previous to applying the Catarrh Remedy fluid, take one quart of soft water, add to it two large tablespoonfuls of common salt, and shake it up occasionally until all is dissolved. Before use heat it until blood warm, or, in other words, until it gives a pleasant, mild warmth to the inserted finger. Put the reservoir on a shelf, or hang it up, so that it will be a little higher than the head;

Fig. 12.



This cut illustrates the manner of using Dr. Pierce's Nasal Douche.

fill the reservoir with salt and water, pressing the tube between the thumb and finger so as to prevent the fluid from escaping through it; introduce the nozzle at the end of the tube into one nostril, pressing it in far enough to close the entrance of the passage so that no fluid can escape by the side of the tube, breathe through the mouth, avoid swallowing, and allow the fluid to flow. The soft palate, by the act of breathing through the mouth, is elevated so as to completely close the passage into the throat, and thus the fluid is made to flow up one nostril in a gentle stream, to pass into and thoroughly cleanse all the

sinuses, or cavities, connected with the nasal passages, and to flow out of the other nostril. The douche should not be employed unless both nostrils are open and the flow is free. If the head is "stopped up," snuff up the warm liquid from the hand occasionally, until the passages are open and you can breathe freely through both nostrils.

Do not forget that the instrument will not work properly unless you *breathe through the mouth and avoid swallowing* while the fluid flows.

Fill the reservoir a second time with the simple salt and water, and, inserting the nozzle into the nostril out of which the fluid flowed on using it the first time, pass the current through in the opposite direction; that is, so that it will flow out of the nostril into which it flowed the first time of using it.

After having thus thoroughly cleansed the passages, fill the instrument half full or more with the "Catarrh Remedy Fluid," prepared as heretofore directed, and warmed to a moderate temperature, and pass this through the nose in the same manner as directed for the salt water. The salt water is not curative, but is milder than simple water, and is, therefore, preferable for cleansing the passages.

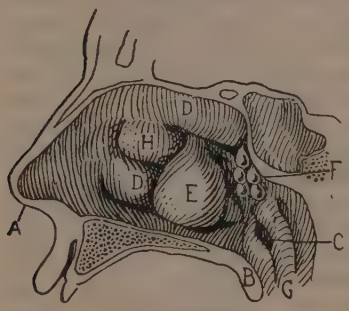
On first commencing the use of the instrument, it is best to hang it only a very little higher than the forehead, but after using it a few times, put it up about as high as the length of the tube will admit.

Let no one entertain any feeling of timidity on commencing the use of this instrument, as its operation is perfectly simple and harmless, and, with the fluids which we recommend, is never attended with any strangling, choking, pain, or other disagreeable sensations. The medicine should be applied with the Douche at least twice a day, in the morning and at night on retiring. There is no advantage in using the medicine oftener than three times a day, when used with the instrument, but a *sufficient* quantity should be used each time to medicate all the diseased parts. If any remains in the Douche it may be poured back into the stock solution for subsequent use, but a liquid that has once passed through the nasal cavity contains the germs of the disease and must not be used a second time.

NASAL POLYPUS.

The term Nasal Polypus is usually given to a variety of growths which are met with in the nasal passages far more frequently than any other tumors. They are thus designated because of their fancied resemblance to the aquatic polypus. They occur singly, or in clusters, as illustrated in Fig. 13. In the early stages the mucous membrane is swollen and irregularly dilated, presenting a rough and mottled appearance not unlike chronic catarrh with which they are usually associated. Gradually these mound-like tumors enlarge, usually becoming pendulant, and presenting a grayish opaque glistening surface, similar to the pulp of a grape. Occasionally they become massive at the point of attachment, and assimilate a warty or cauliflower growth. The latter variety is better supplied with blood vessels and presents a red or dark pink surface and may bleed on slight irritation. The favorite location is beneath or behind the middle or superior turbinated bodies, oftentimes nearly or quite concealed. However, no portion of the mucous membrane lining the upper air passages is exempt. Sometimes they grow from the roof of the nostril and pharnyx in pendulous masses, assuming the shape of the cavities, filling the entire nostril and upper portion of pharnyx. The mucous membrane covering the turbinated bodies may become dilated and swollen, finally developing by catarrhal processes into a polypus at that point. (See *H*, Fig. 13.)

Fig. 13.



NASAL POLYPI.

A. Anterior opening of the nostril. *B*. Soft Palate, *C*. Orifice of the Eustachian tube. *D*, *D*. Superior and inferior turbinated bodies. *E*. Large Polypus. *F*. Several small Polypi. *G*. Throat. *H*. Polypoid growth on turbinated body.

Causes. Nothing definitely is known regarding their causation. They are generally supposed to originate in some constitutional derangement, impairing the nutrition of the mucous membranes. Other cases are closely associated with chronic nasal catarrh, and frequent attacks of cold in the head.

Symptoms. These may vary considerably in different cases due to the character and location of the polypus. In the early stages before the tumor is well developed, the symptoms may be those of nasal catarrh, and the diagnosis of polypus be possible only after a personal examination by a skillful specialist. Neither is the size of the polypus

always in proportion to the severity of the symptoms. The nasal discharge is generally increased and of a variable character. As the tumors enlarge they cause a sense of fullness and weight between and below the eyes, with more or less headache and facial neuralgia. There is partial or complete obstruction of one or both nostrils. In some cases the obstruction changes from one nostril to the other when lying down; the stoppage generally being on the side toward the pillow. A polypus located at the junction of the nasal passages and throat by force of gravity always causes obstruction to the lower nasal cavity when lying down. Polypi often attain considerable size and by pressure upon and displacement of the surrounding structures occasion hideous facial deformity. Changes in the weather often aggravate the symptoms. By blowing the nostril the tumor sometimes may be forced forward, so that it may be seen a short distance from the anterior opening of the nostril. The *voice* is often affected, being muffled or harsh in tone, similar to that which accompanies a cold in the head. *Respiration* may be considerably embarrassed, due to the obstruction in the nasal passages, and the patient necessarily resorts to mouth breathing. In advanced cases the Larnyx is usually much congested, being constantly irritated, not only reflexly through the nervous system, but directly by the inspired air, and excoriating discharges dropping in the throat from behind the palate. Thus it is plain to understand how chronic Pharyngitis, Laryngitis, Bronchitis, and Asthma may result from a small polypus in the nasal cavity.

Treatment. In mild cases correcting the constitutional derangement may check the morbid process in the nostrils and cause absorption of the polypus growth. For this purpose Dr. Pierce's Golden Medical Discovery is unequaled. The removal of the polypus may sometimes be accomplished by snuffing powdered blood-root. When these measures fail it is necessary to seek surgical assistance. After the removal of the polypus Dr. Sage's Catarrh Remedy should be used to prevent a recurrence.

OUR OPERATION FOR NASAL TUMORS.

Having operated with unvarying success upon a very large number and variety of nasal tumors at the Invalids' Hotel and Surgical Institute we are positively assured that the means and methods which we employ are neither severe or dangerous; *no pain*, consequently *no shock;* recovery rapid and permanent. Many forms of injection and local treatment are in use for the removal of nasal polypi, none of which have proven to be curative; recurrence of the tumor many times following such treatment. Many cases have presented themselves after having been treated by the heroic method of seizing the polypus with a pair of forceps and forcibly tearing it loose, bringing with it segments of healthy tissue, leaving bone exposed, and a ragged, uneven surface of diseased membrane, It is much easier to properly

treat a case from the beginning than to undertake it in such a condition.

Owing to the fact that these nasal tumors grow directly from the lining membranes it is necessary not only to thoroughly remove the tumor but to treat the diseased membrane at the point from which the polypus springs; otherwise another tumor may develop at the same point. The nasal passage having been thoroughly anæsthetized, or benumbed, by the use of cocaine, the nasal speculum is introduced, and by means of reflected light from the head mirror worn by the operator, the interior of the nostril is brought into view. (See Fig. 9, p. 479.)

Often the attachment of the growth is entirely hidden behind the irregular bony structures of the nostril so that it requires the skill of an expert specialist, deft in the manipulation of these parts, to operate properly.

Many styles and shapes of delicately devised instruments are necessary to completely remove the growth without doing injury to the adjacent structures. By our newly devised operation the tumor is at once removed, without pain, and with the loss of only a few drops of blood. Further, because the tumor is entirely removed and the base properly treated there is not the offensive discharge for a long time afterward and the danger from infection and blood-poison to which the patient is subjected in other forms of treatment.

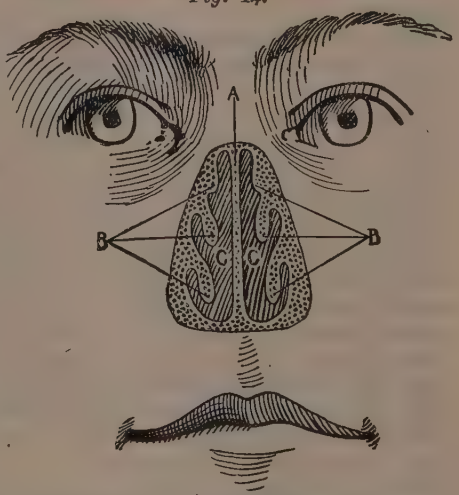
In conclusion we would say that we claim for our operation the following points that are worthy of the careful consideration of every one who may be so unfortunate as to require the services of a specialist for the removal of growths in the nasal or upper air passages.

1st. Our operation is absolutely painless.
2d. No chloroform or ether is required.
3d. We insure perfect removal of growth.
4th. There is no injury to other adjacent structures.
5th. The operation is bloodless.
6th. The recovery is rapid.
7th. There is no slough to produce pus that may be absorbed and cause blood-poisoning.

DEFORMITY OF THE NASAL SEPTUM.

In health the nasal septum is a bony or cartilaginous plate, as shown in *A*, Fig. 14, dividing the nasal passages into two cavities of the same size and shape. This plate or partition is also a support to which the flexible structures which form the tip of the nose are attached. In early life the septum is flexible and may be bent or doubled by injury to the nose; but owing to its elasticity usually resumes its natural position and shape. After maturity any dislocation or change in this bony plate usually remains permanent unless some means are employed for its correction. In a limited number of cases supposed to be chronic nasal catarrh, we have found upon examination that one or both nasal cavities were more or less obliterated and obstructed by the deformed and thickened septum. (See *A*, Fig. 15.) Many of these cases date from an injury to the external parts, causing only bleeding from the nose and a slight pain for a short time. Chronic inflammation develops at the point where the bone is bent or cracked, resulting in thickening, often producing nodules or spur-like projections which not only interfere with nasal breathing, but also act as irritants to the adjacent delicate membranes and produce many of the symptoms common to nasal catarrh.

Fig. 14.



Anterior view of the healthy nasal passages as seen with the projecting portion of the nose removed.

A. Vertical septum or bony plate separating nostrils. *B, B*. Turbinated bodies. *C, C*. Nasal passages.

Among other common causes are unequal or imperfect development of the nasal bones, due to an inherited strumous tendency and local ulcerative disease, weakening or destroying the bone.

Symptoms. The location and extent of the deformity of the nasal septum necessarily gives opportunity for a variety of symptoms. In aggravated cases the nose appears to be bent toward one side. In the earlier stages there is an excess of mucous secretion, often dropping

into the throat from behind the palate. The discharge is variable as in nasal catarrh with more or less difficult nasal breathing, the stoppage changing from one nostril to the other. Sneezing and frequent attacks of nose bleed are often common symptoms. The tendency of the disease is to extend backward often causing headache, deafness, roaring in the ears and post-nasal disease which results in a chronic sore throat, the latter disease often being the one for which the patient seeks advice. If allowed to progress uninterruptedly the throat gradually becomes more irritable, associated with an annoying cough, and the voice becomes harsh and has a nasal tone. The general health is impaired, the nervous system excitable; laryngitis, asthma, and lung disease become complications, which render the existence of the individual miserable.

Treatment. In mild cases where the deformity is slight, and the obstruction is not a constant symptom, the nasal cavities should be cleansed (See treatment of nasal catarrh) after inhaling dust, and special attention given to the prompt treatment of cold in the head. Should there be irritability, sneezing, or a constant discharge, it is advisable to use Dr. Sage's Catarrh Remedy as directed on p. 483 to soothe the excitability and lessen the inflammatory action in and about the thickened and deformed septum. As an auxiliary to promote the absorption of the thickened tissues and restore them to a healthy activity, a number of bottles of the "Golden Medical Discovery" should be taken while using the local treatment. Any dormant condition of the liver or digestive tract may be corrected by taking Dr. Pierce's Pleasant Purgative Pellets. In advanced cases after the structures are so diseased and thickened that it renders local treatment hopeless, only surgical interference can prove curative.

OUR PAINLESS OPERATION.

By the application of a few drops of a solution of cocaine in the nostril, at the point to be treated, we are now able to produce such local anæsthesia as to render the operation entirely painless without the administration of either chloroform or ether. This is an important consideration as many are adverse to taking chloroform or ether, and now that we possess an agent that produces, locally, complete insensibility to pain, we are very glad to dispense with their use in all such minor operations. There is no pain caused even by the application of the cocaine to deaden the sensibility of the part. Many examinations of the upper air-passages heretofore very annoying and even painful to the patient and sometimes unsatisfactory, are rendered entirely painless, and carried out with a thoroughness that would be impossible without the use of this wonderful agent. Not only in surgery of the nose and throat, but alike in other departments, our surgeon-specialists employ the same local anæsthetic in all minor operations, none of which are attended with the least pain.

Our specialists were among the first surgeons in this country to employ this newly-discovered anæsthetic. We regard it as a great boon to our patients, and never withhold it in any case where it can be employed to prevent suffering. Its use is attended with no danger, nor is it followed by bad or disagreeable results.

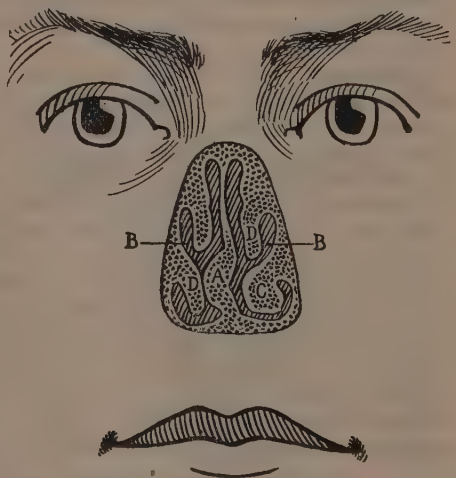
OUR OPERATION.

The nostrils being the entrance to and the beginning of the air passages no dexterity and skill can be spared in treating and properly correcting any deformity that may exist. Mutilation of these sensitive structures is sure to be followed by serious reflex symptoms in adjacent parts.

Consequently cases of this nature should only be entrusted to the care of a competent and experienced specialist. Our resources and appliances are unlimited and seldom do we use the surgeon's knife in a case of this nature.

As in the treatment of other pathological growths in the upper air passages the rhinoscope is indispensable. The parts can only be brought into the view of the operator by means of this instrument and sets of mirrors to reflect light on all sides of the deformed and hidden parts.

Fig. 15.



Anterior view of deformed nasal passages as seen with the projecting portion of the nose removed.

A. Deformed and thickened septum or bony plate separating nostrils. *B*, *B*. Irregular and obstructed nasal passages. *C*. Diseased and swollen turbinated body. *D*, *D*. Turbinated bodies crowded back by septum.

By our operation both nasal cavities are restored to their normal size and contour (compare Figs. 14, 15), unhealthy and diseased tissues are removed, and free nasal respiration established.

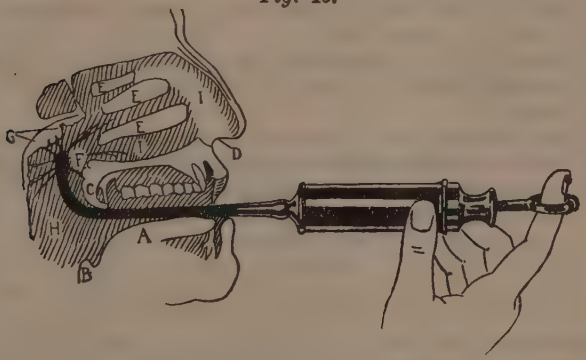
All treatments are carried out under strict aseptic precautions, thus reducing the danger from absorption of poisonous secretions to the minimum. By our skillful and ingenous management of these cases we never have had a single patient manifest any serious symptoms after operation. In such cases we consider this the only safe, practical, and permanent cure. Every year hundreds pass out of existence,

the victims of incurable disease of the air-passages resulting from morbid nasal conditions, who might be saved by proper and timely treatment.

PHARYNGITIS AND POST-NASAL CATARRH.

Simple chronic pharyngitis seldom exists alone and uncomplicated; most cases being the result of previous existing disease of the nasal or post-nasal passages. Many cases are associated with hypertrophy, or enlargement, of the tonsils. Usually the disease is located in the upper part of the pharynx, or throat, behind and above the uvula and soft palate, and is thus hidden from view when looking into the throat through the mouth. When not associated with nasal catarrh the common

Fig. 16.



Use of the Post-nasal Syringe in the treatment of Post-nasal Catarrh.

A. Tongue. *B*. Epiglottis. *C*. Soft palate. *D*. Anterior opening of the nostril. *E*, *E*, *E*. Turbinated bodies. *F*. Junction of the nasal passage and throat. *G*. Diseased and roughened mucous membrane. *H*. Throat or Pharynx. *I*, *I*. Interior of nasal passage.

symptoms are dropping of tenacious mucous in the throat, causing a constant desire to hawk and spit; sense of dryness in this region; cough and expectoration on rising in the morning, which is due to the irritability of the throat, and may invade the lower air-passages. The throat may be studded with red and thickened patches of its mucous membrane. Respiration may be embarrassed, the voice affected and the general health gradually decline. The membrane above and behind the palate is angry, reddened, thickened and roughened, as represented in *G*, Fig. 16.

Treatment. To rationally treat a disease, attack the cause. Therefore, in an uncomplicated case of post-nasal disease of the pharynx the medicine should be applied at this point. For this purpose we rec-

ommend the regular and continuous use of Dr. Sage's Catarrh Remedy administered preferably by means of the post-nasal syringe as illustrated in Fig. 16.

The efficacy of Dr. Sage's Catarrh Remedy as a curative agent in catarrh of mucous membranes is unequaled if the medicine be properly and thoroughly applied. The Catarrh Remedy fluid should be prepared as directed in the pamphlet which accompanies the medicine. Warm enough of the medicine to fill the syringe twice. After the syringe is filled with the warm medicine, introduce the curved tip behind the soft palate, holding the syringe as seen in Fig. 16, then incline the head forward over a wash bowl and empty the syringe by pressing the plunger quickly. The medicine will immediately come in contact with the diseased surfaces and pass out through the nostrils, thoroughly medicating, disinfecting and cleansing the upper part of the throat and the posterior region of the nostrils. Two syringes of the medicine should be used for each treatment, and two or more applications made every day until a cure is effected.

At the same time the local treatment is being used, Dr. Pierce's Golden Medical Discovery should be taken to act through the blood upon the diseased tissues.

The Catarrh Remedy may be administered by means of the Nasal Douche, if the case is complicated by nasal catarrh. Should tumors or deformities exist, it is advisable to consult a specialist.

ENLARGED TONSILS.

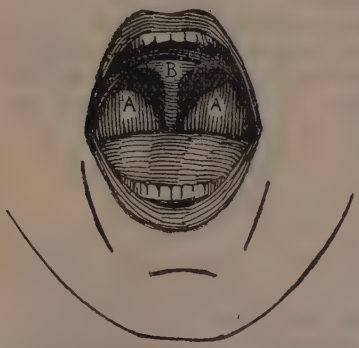
Chronic enlargement of the tonsils, as shown in Fig. 17, *A A*, is an exceedingly common affection. It is most common to those of a scrofulous habit. It rarely makes its appearance after the thirtieth year, unless it has been imperfectly cured. Both tonsils are generally, though unequally enlarged. A person affected with this disease is extremely liable to sore throat, and contracts it on the slightest exposure; the contraction of a cold, suppression of perspiration, or derangement of the digestive apparatus being sufficient to provoke inflammation.

Causes. Repeated attacks of quinsy, scarlet fever, diphtheria, or scrofula, and general impairment of the system, predispose the individual to this disease.

Symptoms. The voice is often husky, nasal or gutturad and disagreeable. When the patient sleeps, a low moaning is heard, accompanied with snoring and stentorian breathing, and the head is thrown back so as to bring the mouth on a line with the windpipe, and thus facilitate the ingress of air into the lungs. When the affection becomes serious it interferes with breathing and swallowing, The

chest is liable to become flattened in front and arched behind, in consequence of the difficulty of respiration, thus predisposing the patient to pulmonary disease. On looking into the throat, the enlarged tonsils may be seen, as in the Fig. 17. Sometimes they are so greatly increased in size that they touch each other.

Fig. 17.



A, *A*. Enlarged Tonsils. *B*. Elongated Uvula.

Treatment. The indications to be carried out in the cure of this malady are:

(1.) To remedy the constitutional derangement.

(2.) To remove the enlargement of the tonsilar glands.

The successful fulfillment of the first indication may be readily accomplished by attention to hygiene, diet, clothing, and the use of Dr. Pierce's Golden Medical Discovery, together with small daily doses of his "Pleasant Pellets." This treatment should be persevered in for a considerable length of time after the enlargement has disappeared, to prevent a return.

To fulfill the second indication, astringent gargles may be used. Infusions of witch-hazel or cranesbill should be used during the day. The following mixture is unsurpassed: iodine, one drachm; iodide of potash, four drachms; pure, soft water, two ounces. Apply this preparation to the enlarged tonsils twice a day, with a probang, or soft swab, being careful to paint them each time. A persevering use of these remedies, both internal and local, is necessary to reduce and restore the parts to a healthy condition.

Sometimes the enlarged tonsils undergo calcareous degeneration; in this case, nothing but their removal by a surgical operation is effectual. This can be readily accomplished by any competent surgeon. We have operated in a large number of cases, and have never met with any unfavorable results.

The method we adopt at the Invalids' Hotel and Surgical Institute for the removal of diseased tonsils is, like other minor operations, painless. The patient is not required to take chloroform or ether. When the enlarged gland is once thoroughly removed the disease seldom returns.

ELONGATION OF THE UVULA.

Chronic enlargement, or elongation of the uvula or soft palate, as shown at *B* in Fig. 17, may arise from the same causes as enlargement of the tonsils. It subjects the individual to a great deal of annoyance

by dropping into or irritating the throat. It causes tickling and frequent desire to clear the throat, also change, weakness and loss of voice, and often gives rise to a very persistent and aggravating cough. Constriction of the throat, cough and difficult breathing are more prominent symptoms in complicated cases.

Treatment. The treatment already laid down for enlarged tonsils, with which affection, elongation of the uvula is so often associated, is generally effectual. When it has existed for a long time, and does not yield to this treatment it may be removed by any competent surgeon.

CHRONIC LARYNGITIS.

This is of much more frequent occurrence than the acute form, and is often associated with tubercular affections, and constitutional syphilis. It is characterized by an inflammatory condition, ulceration, or hardening of the mucous membrane of the larynx, most frequently the latter. There is also a chronic form, known as *follicular laryngitis*, or *clergymen's sore throat*, to which public speakers are subject.

The Causes of chronic laryngitis are various, as prolonged use of the vocal organs in reading or speaking; using them too long on one pitch or key, without regard to their modulation; improper treatment of acute diseases of the throat; neglected nasal catarrh; the inordinate use of mercury; syphilis; repeated colds which directly cause sore throat, injuries, etc. It is also frequently due to tubercular deposits, and in these cases it generally terminates in consumption.

Symptoms. The affection often comes on insidiously. There is soreness of the throat, noticeable particularly when speaking, and immediately thereafter; a "raw" and constricted feeling, leading to freqnent attempts to clear the throat, in order to relieve the uneasy sensation. The voice becomes altered, hoarse, and husky, and there is a slight, peculiar cough, with but little expectoration. At first, the matter expectorated is mucus, but as the disease advances, and ulceration progresses, it becomes muco-purulent, perhaps lumpy, bloody, or is almost wholly pure pus. The voice becomes more and more impaired, and is finally lost. In the latter stages, it resembles consumption, being attended with hectic fever, night-sweats, emaciation, cough, profuse expectoration, and sometimes hemorrhage.

Treatment. The patient should avoid using his voice as much as possible. At the same time, attention should be paid to the diet, the bathing, and the clothing. Every thing should be done that is calculated to build up and improve the general health. Dr. Pierce's Golden Medical Discovery is well adapted to remove morbid states of the disease, in consequence of its direct action on the mucous membranes of the air-passages, and its efficacy in allaying irritation of the

laryngeal, pharyngeal, and pneumogastric nerves. It should be perseveringly employed. Iodine inhalations, administered with the pocket inhaler, illustrated by Fig. 3, and the application of tincture of iodine to the forepart of the neck, are efficacious in many cases. Inhalations of chloride of ammonia, administered with a steam-atomizer, Fig. 11, in the form of spray, are frequently of great benefit. *Perseverance* is necessary, and the afflicted are cautioned against discontinuing the treatment too soon, for the disease is very liable to return.

CONSUMPTION.

PHTHISIS PULMONALIS.

By this we understand a constitutional affection, characterized by a wasting away of the body, attended by the deposition of tubercular matter into the lung tissue. Hence the appellations, *Phthisis Pulmonalis; Pulmonary Tuberculosis; Tubercular Consumption.* Tubercles may form in other organs and result in a breaking down of their tissues, but the employment of the term *Consumption* in this article is restricted to the lungs. The general prevalence, the insidious attack, and the distressing fatality of this disease, demand the special attention and investigation of every thinking person. It preys upon all classes of society. Rich and poor alike furnish its victims.

Some idea of its prevalence may be formed when we consider that, of the entire population of the globe, one in every three hundred and twenty-three persons annually dies of consumption. It may not be definitely known just what proportion of all the deaths in this country and Europe occurs from this one disease. Those who have gathered statistics differ somewhat, some claiming one-fourth, while others put the ratio at one-sixth, one-seventh, and even as low as one-ninth. A fair estimate, and one probably very near the truth, would be one-sixth or one-seventh of the whole number. In New York City, for five consecutive years, the proportion was three in twenty. In New England, about twenty thousand annually succumb to this destroyer, and in the State of New York as many more. These figures may appear to be exaggerations, but investigations of the subject prove them to be the simple truth. Epidemics of cholera, yellow fever, and other diseases of similar character, so terrible in their results, occasion wide-spread alarm, and receive the most careful considerations for their prevention and cure, while consumption receives scarcely a thought. Yet the number of their victims sinks into insignificance when compared with those of consumption. Like the thief in the night, it steals upon its victim unawares. In a large proportion of cases, its approach is so insidious that the early symptoms are almost wholly disregarded; indeed, they excite but little, if any, attention, and perhaps for a time

disappear altogether. Thus the patient's suspicions, if they have been aroused, are allayed and appropriate measures for his relief are discontinued. This may be the case until renewed attacks firmly establish the disease, and before the patient is fully aware of the fatal tendency of his malady, he is progressing rapidly towards that "bourne from which no traveler returns."

As has already been stated, consumption is a constitutional disease, manifested by feeble vitality, loss of strength, emaciation—symptoms which are too often classed under the name of *general debility*, until local symptoms develop, as *cough*, *difficult breathing*, or *hemorrhage*, when examination of the chest reveals the startling fact that tubercular deposits have been formed in the lungs. Invalids are seldom willing to believe that they have consumption, until it is so far advanced that all medicine can do is to smooth the pathway to the grave. Another characteristic of this disease is *hope*, which remains active until the very last, flattering the patient into expectation of recovery. To the influence of this emotion, the prolongation of the patient's life may often be attributed.

Nature of the Disease. It is an error to suppose that the disease under consideration is confined to the lungs. "Pulmonary Consumption," as has been remarked, "is but a *fragment* of a great constitutional malady." The lungs are merely the stage where it plays its most conspicuous part. Every part of the system is more or less involved, every vital operation more or less deranged; especially is the *nutritive* function vitiated and imperfect. The circulation is also involved in the general morbid condition. Tubercles, which constitute a marked feature of the disease, are composed of unorganized matter, deposited from the blood in the tissue of the lungs. They are small globules of a yellow, opaque, friable substance, of about the consistency of cheese. After their deposition, they are increased in size by the accretion of fresh matter of the same kind. They are characteristic of all forms of scrofulous disease.

The most plausible therory in regard to them is, that they are the result of imperfect nutrition. Such a substance cannot be produced in the blood when this fluid is perfectly formed. It is an unorganized particle of matter, resulting from the imperfect elaboration of the products of digestion, which is not, therefore, properly fitted for assimilation with the tissues. The system being unable to appropriate it, and powerless to cast in off through the excretory channels, deposits it in the lungs or other parts of the body. There it remains as a foreign substance, like a splinter or thorn in the flesh, until ejected by suppuration and sloughing of the surrounding parts. It might be supposed by some that when the offending matter was thus eliminated from the lungs, they would heal and the patient recover; but, unfortunately, the deposition of tubercular matter does no cease. Owing to the morbid action of the vital forces, it is formed and deposited as fast

or faster than it can be thrown off by expectoration. Hence arises the remarkable fatality of pulmonary consumption.

Causes. The causes of consumption are numerous and varied, but may all be classed under two heads, viz: *Constitutional*, or *predisposing*, and *local*, or *exciting*. Of just what tubercular matter consists, is still a subject of controversy, but that its existence depends upon certain conditions, either *congenital* or *acquired*, is generally conceded; and one of these conditions is impaired vitality. Constitutional predisposition must first give rise to conditions which will admit of the formation of tubercular matter, before any cause whatever can occasion its local deposition. It must modify the vitality of the whole system, when other causes may determine in the system thus impaired, the peculiar morbid action of which tubercular matter is the product. The general division of causes into predisposing and exciting, must ever be more or less arbitrary. Individuals subject to predisposing causes may live the natural term of life and finally die of other disease. Indeed, when predisposing causes are kown to exist, they should constitute a warning for the avoidance of other causes. Again, among the so-called exciting causes, some may operate in such a manner, with some individuals, as to predispose them to consumption, and the result will be the same as if the disposition had been congenital. The causes which in one individual are *exciting*, under other circumstances and in other individuals, would be *predisposing*, because they act so as to depress the vitality and impair the nutritive processes.

The Predisposing Causes, then, are hereditary predisposition, scrofula, debility of the parents, climatic influences, sedentary habits, depressing emotions, in fact, *anything* which impairs the vital forces and interferes with the perfect elaboration of nutritive material.

The Exciting Causes are those which are capable of arousing the predisposing ones into activity, and which, in some instances, may themselves induce predisposition; as dyspepsia, nasal catarrh, colds, suppressed menstruation, bronchitis, retrocession of cutaneous affections, measles, scarlatina, malaria, whooping-cough, small-pox, continued fevers, pleurisy, pneumonia, long-continued influence of cold, sudden prolonged exposure to cold, sudden suspension of long-continued discharges, masturbation, excessive venery, wastes from excessive mental activity, insufficient diet, both as regards quantity and quality, exposure to impure air, atmospheric vicissitudes, dark dwellings, dampness, prolonged lactation, depressing mental emotions, insufficient clothing, improper treatment of other diseases, exhaustive discharges, tight lacing, fast life in fashionable society, and impurity and impoverishment of blood from any cause. This list might be greatly extended, but the other causes are generally in some manner allied to those already named.

Symptoms. The symptoms of consumption vary with the progress of the disease. Writers generally recognize three stages, which so

gradually change from one to the other that a dividing line cannot be drawn. As the disease progresses, new conditions develop, which are manifested by new symptoms. Prior to the advent of pulmonary symptoms, is the latent period, which may extend over a variable length of time, from a few months to several years; and, indeed, may never be developed any farther. Until sufficient tubercular matter has been deposited in the lungs to alter the sounds observed on auscultation and percussion, a definite diagnosis of tubercular consumption cannot be made, even though there may have been hemorrhage. Nevertheless, when we find *paleness*, *emaciation*, *accelerated and difficult breathing*, *increased frequency of the pulse*, *an increase of temperature*, and *general debility* coming on gradually without any apparent cause, we have sufficient grounds for grave suspicions. These are increased if tenderness under the collar-bone, with a slight, hacking cough is present. These symptoms should be sufficient to warn any individual who has the slightest reason to believe that he is disposed to consumption, to lose no time in instituting the appropriate hygienic and medical treatment, for it is at this stage that remedies will be found most effective. Unfortunately, this period is too apt to pass unheeded, or receive but trifling attention; the patient finds some trivial excuse for his present condition, and believes that he will soon be well. But, alas for his anticipations! The disease goes onward and onward, gradually gaining ground, from which it will be with great difficulty dislodged.

The cough now becomes sufficiently harassing to attract attention, and is generally worse in the morning. The expectoration is slight and frothy; the pulse varies from ninety to one hundred and twenty beats in a minute, and sometimes even exceeds this. Flushes of heat and a burning sensation on the soles of the feet and palms of the hands are experienced. A circumscribed redness of one or both cheeks is apparant. These symptoms increase in the afternoon, and in the evening are followed by a sense of chilliness more or less severe. The appetite may be good, even voracious; but the patient remarks that his food "does not seem to do him any good," and, to use a popular expression, "he is going into a decline." As the strength wanes the cough becomes more and more severe, as if occasioned by a fresh cold, in which way the patient vainly tries to account for it. Expectoration increases, becomes more opaque, and, perhaps, yellow, with occasionally slight dots or streaks of blood. The fever increases, and there is more pain and oppression of the chest, particularly during deep respiration after exercise. Palpitation is more severe. There may now be night-sweats, the patient waking in the morning to find himself drenched in perspiration, exhausted, and haggard. Bleeding from the lungs occurs, and creates alarm and astonishment, often coming on suddenly without warning. The hemorrhage usually ceases spontaneously, or on the administration of proper remedies, and in a few days the patient feels better than he has felt for some time previ-

ously. The cough is less severe, and the breathing less difficult. Indeed, a complete remission sometimes occurs, and both patient and friends deceive themselves with the belief that the afflicted one is getting well.

After an indefinite length of time, the symptoms return with greater severity. These remissions and aggravations may be repeated several times, each successive remission being less perfect, each recurrence more severe, carrying the patient further down the road toward the "dark valley." Now the cough increases, the paroxysms become more severe, the expectoration more copious and purulent, as the tubercular deposits soften and break down. The voice is hollow and reverberating, the chest is flattened, and loses its mobility ; the collar-bones are prominent, with marked depression above and below. Auscultation reveals a bubbling, gurgling sound, as the air passes through the matter in the bronchi, with the click, to the air cells beyond. Percussion gives a dull sound or if there are large cavities, it is hollow, and auscultation elicits the amphoric sound, as of blowing into a bottle. Hectic fever is now fully established ; the eye is unusually bright and pearly, with dilated pupils, which gives a peculiar expression ; the paroxysms of coughing exhaust the patient, and he gasps and pants for breath. The tongue now becomes furred, the patient thirsty, the bowels constipated, and all the functions are irregularly performed. Another remission may now occur, and the patient be able to resume light employment, for an indefinite length of time, which we have known to extend over three or four years, when the symptoms again return.

If the patient is a female, and deranged or suppressed menstruation has not marked the accession of pulmonary symptoms, the flow now becomes profuse and clotted, or is scanty and colorless, sometimes ceasing altogether. In the male, the sexual powers diminish, and copulation is followed by excessive and long-continued prostration. From this time onward, the progress of the disease is more rapid. The liver and kidneys are implicated. In addition to the pallor, the complexion becomes jaundiced, giving the patient, who is now wasting to a mere skeleton, a ghastly look. The urine is generally copious and limpid, though occasionally scanty and yellow. The pulse increases to one hundred and thirty or one hundred and forty beats in the minute, and is feeble and thread-like. The cough harasses the patient so that he does not sleep, or his rest is fitful and unrefreshing ; whenever sleep does occur, the patient wakes to find himself drenched with a cold, clammy perspiration. The throat, mouth, and tongue now become tender, and occasionally ulcerate. Expectoration is profuse, purulent, and viscid, clinging tenaciously to the throat and mouth, and the patient no longer has strength to eject it. The hair now falls off, the nails become livid, and the breathing difficult and gasping ; the patient has no longer strength to move himself in bed and has to be propped up

with pillows, and suffocates on assuming the recumbent position. Drinks are swallowed with difficulty. Diarrhea takes the place of constipation. The extremities are cold, swollen, and dropsical; the voice feeble, hollow, grating, husky, the patient gasping between each word; the respiration is short and quick. A slight remission of these symptoms occurs. The patient is more comfortable, lively, cheerful, and perhaps forms plans for the future. But it is the last effort of expiring vitality, the last flicker of the lamp of life, the candle burns brilliantly for a moment, and with one last effort goes out, and death closes the scene.

The duration of the active stage of consumption varies from a few weeks to several years, the average time being about eighteen months.

Cough is always a prominent symptom throughout the entire course of the disease, varying with its progress.

Expectoration, at first scanty, then slightly increased, colorless, frothy, and mucous, is also a characteristic. After a time it becomes opaque, yellow, and more or less watery; then muco-purulent and finally purulent, copious, and viscid. When tubercular matter is freely expectorated, with but little mucus, it sinks in water. This symptom continues to the very last.

Hæmoptysis (bleeding from the lungs) may occur at any stage of the disease, often being the first pulmonary symptom noticed, again being delayed until late; and there are cases in which it does not happen at all. It seldom occurs in any other disease.

Night-sweats may occur at any stage, though they are rarely experienced until the disease is pretty well established, and are very exhausting.

Hectic Fever generally occurs soon after the pulmonary symptoms are developed, and increases in intensity with the progress of the disease. There are usually two paroxysms in twenty-four hours, one of which occurs towards evening and is followed by night-sweats.

Dyspnœa (difficult breathing) is at first slight, except after exertion, amounting to only a sense of oppression; but it becomes more and more severe as the disease advances, until the very last, when it is agonizing in the extreme.

Aphthæ, sometimes extending to the pharynx and larynx, generally occurs towards the last. The mouth and throat become so very sore and tender that nourishment and medicine are taken with difficulty.

Emaciation and Debility are characteristic of the disease. They fluctuate as the disease advances or is retarded, increasing to the very last.

Auscultation and Percussion constitute valuable means of diagnosis from the time tubercular matter begins to be deposited to the very last, and, when correctly practiced, reveal the extent and progress of the disease. As a knowledge of the sounds elicited can only be acquired by practical experience, with proper instruments, they will not

be described here. The only diseases with which consumption is likely to be confounded are general debility in the early stage, bronchitis, chronic pleurisy, chronic pneumonia, and abscess in the lungs, after the advent of pulmonary symptoms.

Curability. Notwithstanding the prevailing opinion that consumption is incurable, there exists ample, incontrovertible evidence to the contrary. Its curability is established beyond the shadow of a doubt. Individuals have recovered in whom there was extensive destruction of pulmonary tissue, and, indeed, entire destruction of one lung. Numerous instances are on record in which persons have suffered from all the symptoms of confirmed consumption, and have regained their health and subsequently died of other diseases. The case of the late Dr. Joseph Parish, of Philadelphia, affords a striking example of this kind. In early life, he manifested all the symptoms of confirmed consumption, including frequent hemorrhages, yet he fully regained his health, and, after a very useful life, died at an advanced age of another disease. Post-mortem examination revealed the existence of cicatrices, or scars, in his lungs where tubercular matter had been deposited. Dr. Wood, in his Practice of Medicine, mentions another instance of a medical gentleman in Philadelphia, who in early life suffered from consumption with hæmoptysis, from which he recovered, and afterwards died, at an advanced age, of typhoid fever, when the knife revealed the presence of cicatrices. Post-mortem examinations of individuals who have died of other diseases, have revealed, in numerous instances, the presence of consumption at some period of their existence. In these cases the lungs were perfectly healed by cicatrization, or by the deposit of a chalky material. A French physician made post-mortem examinations of one hundred women, all of whom were over sixty years of age, and who had died of other diseases, and in fifty of them he found evidences of the previous existence of consumption.

Professor Flint says that consumption sometimes terminates in recovery, and that his observations lead him to the conclusion that the prospect of recovery is more favorable in cases characterized by frequent hemorrhages. Drs. Ware and Walshe are also led to the same conclusion.

Professor J. Hughes Bennett, of Edinburgh, has thoroughly investigated the subject, and adds his testimony to that of others, citing numerous cases that have resulted in perfect recovery. If such testimony is not sufficient, we may mention the following, whose names are well known and respected in professional circles, and all of whom declare that consumption is a curable disease. The list includes Laennec, Andral, Cruveilhier, Kingston, Presat, Rogée, Boudet, and a host of others.

No farther back than 1866, on page 145, of the proceedings of the Connecticut Medical Society, we find "Observations, Ante-mortem and Post-mortem, upon the case of the late President Day by Prof. S. G.

Hubbard, M. D., New Haven," from which we learn that Jeremiah Day, LL. D., who was for twenty-nine years President of Yale College, was, while a mere youth, a victim of pulmonary consumption. During his infancy and boyhood his vitality was feeble. He entered Yale College as a student in 1789, "but was soon obliged to leave the institution on account of pulmonary difficulty, which was doubtless the incipient stage of the organic disease of the lungs which subsequently developed itself." He remained in feeble health for two years, but returned to college, and graduated in 1797. For the next six years his lung difficulties were quite severe, and he repeatedly bled in large quantities, but he had so far recovered in 1803, as to accept a Professorship. He was afterwards chosen President of the college, which office he held for many years, in the enjoyment of good health. He died from "old age," as we are told, in 1867, aged 94 years.

Statistics show that under the improved methods of treating this disease, the mortality, as compared with previous years, has been greatly reduced. Clinical observation proves that injuries to the lungs are not so fatal as was once supposed.

Treatment. The earlier the treatment of this disease is undertaken, the greater is the probability of success. The reason of this is obvious; at first the disease is general or constitutional, but as it advances, by the deposit of *tubercular matter*, it becomes both constitutional and local. Hence the treatment must be both *general* and *local*. The occurrence of certain prominent and distressing symptoms, either from the natural progress of the disease, or from complications with other affections, often renders it difficult, even for physicians, to determine how far their treatment should be general and how far local.

Treating the symptoms instead of the general disease, or treating the constitutional disease without regard to the symptoms which arise from it, is an error into which many physicians have fallen. The constitutional affection, the local manifestations and complications, and the circumstances and individual peculiarities of the patient, must all be carefully considered; bearing in mind all the while, that tubercular matter is the product of a morbid action, which, in every case, must exist before its deposition in the lungs, or any other tissue, can take place.

In every case in which curative treatment is to be instituted, the hearty and persistent co-operation of both patient and friends is absolutely necessary ; and the treatment, which is both hygienic and medical in character, should have in view the following aims :

(1.) The avoidance of the causes concerned in the production and perpetuation of the disease.

(2.) The restoration of healthy nutrition, in order to stop the formation of tuberculous matter.

(3.) The arrest of the abnormal breaking down of the tissues, and the prevention of emaciation.

(4.) The relief of local symptoms, and the complications arising from other diseases.

The fulfillment of the first indication, the avoidance of causes, is of the utmost importance, for if they have been sufficient to *produce* the disease, their continued operation must certainly be sufficient to *perpetuate* it. A single individual is very often subjected to the operation of several of the causes already enumerated, some of which, in consequence of circumstances and surroundings, are unavoidable. Of these, the one most difficult to overcome is climate ; *i. e.* the frequent variations of temperature.

Upon the subject of climate much has been written. But that which is best adapted to the cure of consumption, is that which will enable the patient to pass a certain number of hours every day in the pure open air, without exposure to sudden alterations of temperature. There are very few persons who change their place of residence, except as a last resort, when the disease is in the last stage. It is then productive of little or no good. This is one reason why so many people having consumption die in Florida, and other warm countries. If a change of climate is to be effected at all, it should be made early.

The most powerful stimulant to health is well-regulated exercise. It assists the performance of every function, and is of paramount importance to promote good digestion and proper assimilation, conditions essential for recovery. It should not, however, be carried beyond the powers of endurance of the individual, so as to exhaust or fatigue. Everthing that can invigorate should be adopted ; everything that exhausts should be shunned.

To fulfill the second indication, to restore healthy nutrition, requires not only a proper diet, both as regards quantity and quality, but demands that the integrity of the organs concerned in the process of digestion and assimilation, shall be maintained at the highest standard of perfection possible.

That the diet be sufficient in quantity should be obvious to all. It is also necessary that it be nutritious, and that it should contain carbonaceous elements. Food of a starchy or saccharine character is apt to increase acidity, and interfere with the assimilation of other elements, therefore, articles, rich in fatty matters, should enter largely into the diet. The articles of food best adapted to the consumptive invalid are milk, rich cream, eggs, bread made from unbolted wheat-flour, and raised with yeast, cracked wheat, oatmeal, good butter, beef, game, and fowls. These contain the necessary elements for assimilation. Oily food is of great importance, and the beef eaten should contain a good proportion of fat. Plenty of salt should always be eaten with the food, and a desire for it is often experienced. Over-eating should be avoided, lest the stomach be induced to rebel against articles of diet rich in important elements.

Derangement of the process of nutrition requires careful attention,

and, if necessary, correction. For this purpose, nothing can excel Dr. Pierce's Golden Medical Discovery. It increases the appetite, favors the nutritive transformation of the food, enriches the blood, and thus retards the deposition of tubercular matter. It is so combined that, while it meets all these indications, it relieves or prevents the development of those distressing symptoms so common in this disease.

The "Golden Medical Discovery" is adapted to fulfill the third indication in the management of this disease, which is to check the abnormal breaking down and waste of tissues, which constitute such a prominent feature in this malady. The antiseptic properties of the "Discovery" are unmistakably manifested in preventing such abnormal decomposition. The emaciation, excessive expectoration, profuse perspiration, diarrhea, and hectic fever, common to consumption, are all due to a too rapid disintegration and waste of the tissues. It is in this condition of the system that this medicine, by its powerful antiseptic properties, manifests its most wonderful curative ability. When, as in this disease, the vital forces of the system have, in a degree, lost their restraining influence over the processes of disintegration, waste, and decay, which goes on so rapidly that nutrition cannot compensate for the loss to the system, then it is that the "Golden Medical Discovery," by its antiseptic influence, checks this rapid waste of the tissues, and thus arrests the disease. To the lack of employment of such a remedy in the treatment of consumption, the unparalleled fatality of the disease is largely due. In their anxiety to improve digestion and nutrition, and thus build up the tissues, physicians often lose sight of the no less important indication of restraining the destructive waste going on in the system, which overbalances the supplies furnished by absorption. The gradually increasing emaciation and loss of strength render perpetuity of the organism impossible.

The fulfillment of the fourth indication, to relieve local symptoms, and the complications with other diseases, is often attended with no little difficulty.

The Cough is a secondary symptom, arising from the irritation caused by the tubercular deposits. Medicated inhalations may give temporary relief, but cannot cure it. They strike at the branches of the disease, while the root is left to flourish and develop new branches.

Expectorants have been employed to a great extent, and the theories, which have been advanced in favor of their use, are sometimes very ingenious. That they modify the cough, we do not attempt to deny; but it is usually at a great expense, for they derange the stomach and interfere with digestion and assimilation.

Improvement of the general health is always attended with amelioration of the cough. If the patient did not cough at all, the lungs would soon fill up with broken-down tissue, and death from suffocation would result. Irritation of the nerves supplying the lungs sometimes occurs, and causes the patient to cough immoderately, when it is

not necessary for the purpose of expectoration. This condition is readily controlled by Dr. Pierce's Golden Medical Discovery, which exerts a decidedly quieting and tonic influence upon the pneumogastric nerve, which, with its ramifications, is the one involved. An infusion of the common red clover, in tablespoonful doses, will also be found a valuable adjunct in overcoming this condition.

Hæmoptysis. Hemorrhage from the lungs is generally sudden and unexpected in its attack, though sometimes preceded by difficulty of breathing, and a salty taste in the mouth. Although it *very rarely* destroys life, it often occasions alarm. Common table salt, given in one-fourth to one-half teaspoonful doses, repeated every ten or fifteen minutes, is generally sufficient to control it. Ligatures applied to the thighs and arms, sufficiently tight to arrest the circulation of blood in the veins, but not tight enough to impede it in the arteries, is a useful proceeding. Ergot, in teaspoonful doses of the fluid extract, hamamelis, and gallic acid, all are valuable for this purpose.

Night-sweats can only be regarded as a symptom of weakness, and are to be remedied by an improvement of the general health. Bathing in salt water is sometimes attended with good results. The practice of giving acids for this symptom can only be regarded as irrational. It may arrest the sweating, but it will do harm in other ways. Belladonna, given at bedtime, is an effectual remedy.

Frequency of the pulse is generally a prominent symptom in this disease. It sometimes points to a condition of sufficient importance to require a remedy. Although the "Golden Medical Discovery" is combined to meet this condition, its value may be greatly enhanced by adding one-half to one teaspoonful, according to the urgency of the case and the frequency of the pulse, of the fluid extract of *Veratrum Viride* to each bottle. The benefit of this, when persisted in, will be apparent in the amelioration of all the symptoms, and in the general improvement. This fluid extract can be had at any drug store.

Diarrhea is sometimes a troublesome symptom, and particularly so in the latter stages of the disease. It is generally due to acidity of the alimentary canal, to which the treatment must be directed. Great care should be taken in the selection of the diet to improve the quality and avoid everything which disagrees with the patient. Improve digestion by every possible means. Carbonate of soda and rhubarb, in the form of a syrup, are sometimes excellent. The Compound Extract of Smart-weed, in small doses, will generally diminish the frequency of the discharges.

Derangement of the Liver is often a complication requiring attention, and the timely relief of which goes very far in ameliorating the general condition of the patient. The "Golden Medical Discovery" is generally sufficient to relieve this complication. Its influence, however, may be considerably increased in this direction by the use of Dr. Pierce's Pleasant Pellets, according to the directions which accom-

pany them. They should only be taken in the smallest doses, one or two "Pellets" every day, just enough to produce a natural movement of the bowels each day.

Uterine Derangements. In the female, derangement of the menstrual function is generally an early complication of consumption, if indeed it does not occur at the outset. It deserves early attention, aud, in addition to the remedies already advised, Dr. Pierce's Favorite Prescription is so compounded as to meet the requirements of this condition, and at the same time exert a favorable influence upon the constitutional disease.

The numerous reports of cures of well-developed cases of Consumption to be found in the back portion of this little treatise must be sufficient, it seems to us, to convince the most skeptical of the wonderful power which Dr. Pierce's Golden Medical Discovery exercises over this terribly fatal malady. As will be noted, many of the cases there reported had long been unsuccessfully treated with cod liver oil emulsion and all the other usual remedies employed by the profession and were fast running down. "Golden Medical Discovery" aroused the stomach and liver, and started all the nutritive functions into action, whereby digestion and nutrition were promoted and both the strength and flesh steadily built up. The reader will bear in mind, that most of the cases hereinafter reported, were pronounced Consumption by their attending physicians as well as by us. It cannot be said, therefore, that we exaggerate the malady and that the cases were merely bad, lingering coughs. Thousands, whose maladies have been pronounced genuine Tubercular Pulmonary Consumption, (Phthisis Pulmonalis) by eminent physicians have been *perfectly* and *permanently* cured by the use of Dr. Pierce's Golden Medical Discovery. It can, therefore, no longer be doubted that this wonderful compound is far superior as a remedy for Consumption to cod liver oil, compound Hypophosphites, and the many other agents so highly extolled, and so generally prescribed for this fatal malady by even the more progressive and advanced of the medical profession of our day. Read the letters received from grateful patients who have been cured and note how many commend the use of "Golden Medical Discovery," as a "last resort," after their home physicians had exhausted all their skill and resources in vain.

CHRONIC BRONCHITIS.

This is a subacute or chronic form of inflammation of the mucous membrane of the bronchial tubes, of a very persistent character and variable intensity. There are few diseases which manifest a greater variety of modifications than this.

Symptoms. The symptoms of this disease vary greatly with its violence and progress. Cough is always present, and is very often the first symptom to attract the patient's attention. It is usually increased by every slight cold, and with each fresh accession becomes more and more severe, and is arrested with greater difficulty. The cough is always persistent, sometimes short and hacking, at other times deep, prolonged, and harsh. Sometimes it is spasmodic and irritating and particularly so when it is associated with affections of the larynx, or with asthma, involving irritation of the branches or the filaments of the pneumogastric nerve.

When the chronic follows the acute form of the disease, or follows inflammation of the lungs, the expectoration may be profuse from the first, and of a yellowish color and tenacious character. When the disease arises from other causes, the expectoration is generally slight at first, and the cough dry or hacking. This may continue some time before much expectoration occurs. The expectorated matter is at first whitish, opaque, and tenacious, mixed sometimes with a frothy mucus, requiring considerable coughing to loosen it and throw it off. As the disease progresses, it becomes thicker, more sticky, of a yellowish or greenish color, mixed with pus, and sometimes streaked with blood. In the latter stages, it becomes profuse and fetid, and severe hemorrhage may occur. Sometimes the cough and expectoration disappear when the weather becomes warm, to appear again with the return of winter, which has gained for it the appellation of *winter cough*. The sufferers feel as if something was bound tightly round them, rendering inhalation difficult. Soreness throughout the chest is often a persistent symptom, especially when the cough is dry and hard. Behind the breastbone there is experienced a sense of uneasiness, in some cases amounting to pain, more or less severe.

As the disease progresses, the loss of strength is more and more marked, the patient can no longer follow his usual employment, his spirits are depressed, and he gradually sinks, or tubercular matter is deposited in the lungs, and consumption is developed.

Treatment. Thorough attention to hygiene, with the avoidance of the causes concerned in the production and perpetuation of the disease, is necessary. The patient must be protected from the vicissitudes of the weather by plenty of clothing; flannel should be worn next to the

skin, with a pad of flannel or buckskin over the chest, and the feet should be kept warm and dry, Exercise in the open air is essential. When the weather is so cold as to excite coughing, something should be worn over the mouth, as a thin cloth, handkerchief, muffler, or anything which will modify the temperature of the atmosphere before it comes into contact with the mucous lining of the lungs. Good ventilation of sleeping-rooms is all-important; not that the air should be cold, but that it should be as pure as possible.

The diet must be nutritious, cabonaceous, and of sufficient quantity. Beef, milk, rich cream, plenty of good butter, eggs, fish, wheat bread from unbolted flour, supply the appropriate alimentary substances for perfect nutrition and the maintenance of animal heat.

To overcome the modified form of inflammation in the bronchial tubes, all sources of irritation should be avoided, as the inhalation of dust, or excessively cold air. It is in the cure of severe and obstinate cases of this disease that Dr. Pierce's Golden Medical Discovery has achieved unparalleled success, and won the highest praise from those who have used it. Its value will generally be enhanced in treating this complaint by adding one-half a teaspoonful of the fluid extract of *Veratrum Viride* to each bottle. This can be added by any respectable druggist. Especially should it be thus modified if the pulse be accelerated so as to beat ninety or a hundred times in a minute. The "Golden Medical Discovery" should be taken in teaspoonful doses, repeated every two hours. When the cough is dry and hard, with no expectoration, it arises from irritation of some of the branches of the pneumogastric nerve, which this remedy will relieve. It may, however, be aided by inhaling the hot vapor of vinegar and water, or vapor from a decoction of hops, to which vinegar has been added.

The use of Dr. Pierce's Golden Medical Discovery should be *persisted* in, taking it in frequent doses, every two or three hours, and keeping up its use until the disease yields and is perfectly stamped out. Do not expect a formidable disease of perhaps weeks' or months' duration to be *speedily* cured. Chronic diseases are generally slow in their inception and development and can only be cured by gradual stages. Perseverance in treatment is required. Many invalids do not possess the strength of purpose—the will power—to continue the use of the "Golden Medical Discovery" long enough to receive its full benefits. It is worse than useless for such to commence its use, for without persistency it cannot be expected to cure such obstinate maladies as chronic bronchitis.

ASTHMA.

PHTHISIC.

One of the most distressing ailments with which the human family is afflicted is asthma. Its symptoms are not to be mistaken. Suddenly and without apparent provocation the patient experiences the greatest difficulty in breathing. When warning is given, there is usually a sense of fullness in the stomach, flatulence, languor, and general nervous irritability. The countenance is a picture of anxiety and horror. The difficulty of breathing increases and the struggle for air commences. Windows and doors are thrown open, fans used, and, utterly regardless of consequences, the sufferer passes the whole night in exposure and torture, even though the temperature be below zero. Fearing suffocation, the patient dare not lie down; he rushes to the window for air, rests his head upon a table or chair, or upon his hands, with the elbows upon the knees, jumps up suddenly and gasps and struggles for air. The eyes are prominent and the veins of the forehead distended with blood; sometimes the bowels are relaxed. The urine is colorless and is passed in copious quantities. This symptom indicates great excitement of the nervous system. The voice is hoarse, articulation difficult, breathing limited, noisy and wheezy. The *wheezing* is pathognomonic of the disease. It can only be confounded with croup, and then only in the young. In croup there is pain and difficulty in swallowing, fever and cough, which are usually absent in asthma. A severe paroxysm of asthma is very distressing to witness, and one unused to it might well suppose the sufferer to be in his last agonies. No definite limit can be assigned to the duration of the attack or of the disease. It may last but a few minutes, may endure for hours, or with slight remission continue for days. The condition of the patient may be for years as changeable as the pointings of the weather-vane. In fact, the atmosphere has much to do with the disease. With every approaching storm, with every cloud of dust, even the dust from sweeping a room, with every foul odor, and, in some more sensitive organizations, with even the perfume of flowers, a paroxysm is provoked. Truly he is a "child of circumstances," a veritable football upon the toes of every atmospheric disturbance.

UNPARALLELED SUCCESS.

Persons affected with asthma or phthisic are numerous. With such an amount of suffering in our midst is it not a marvel, if not a disgrace, that the medical profession of to-day endorse the opinions of a half century ago and pronounce it incurable, rather than make stupendous and laudable efforts to discover plans of medication that will

result in certain and permanent cure? Almost single-handed we undertook this field of investigation, and we take pleasure in reporting that our labors have been crowned with success. The large experience furnished us has led to the discovery of remedies for this distressing malady of more than ordinary efficacy. Through the agency of these means we have been enabled to cure hundreds, who had suffered untold tortures for twelve, fifteen, or twenty-five years. Some whom we have been successful in curing had suffered from childhood to middle and even old age. The treatment of asthma, or phthisic, still continues to be a prominent specialty at the Invalids' Hotel and Surgical Institute.

NATURE OF THE DISEASE.

As to the exact pathological condition in this malady, opinions differ. Some physicians consider it a disease of the nervous system, others, of the blood, others, of the bronchial tubes, while not a few believe it to be dependent upon some disease of the stomach, heart, liver, kidneys, or due to urinary affections, or "female weakness." Respecting all these diseases of special organs, it is evident that any complication, and particularly one that is debilitating or causes irritation of the nervous system will increase its severity. This important fact we keep constantly in view in our treatment, and prescribe remedies to remove all complications.

In heart disease there is often dyspnœa, or difficult breathing, but this is not of the nature of asthma, or phthisic. The condition of the lungs is readily understood. There being an obstruction to the free passage of the blood through the heart, any excessive muscular exertion, or anything, in fact, which increases the action of the heart, is very apt to produce congestion of the lungs, and then the blood becomes surcharged with carbonic acid, which causes increased efforts to take more air into the lungs.

A Nervous Disease. A sudden fright, unfavorable news, grief, loss of property, etc., circumstances which affect the mind and nervous system, almost invariably throw the phthisical into a paroxysm. Nervines are demanded, particularly if the case be a chronic one, and we see that they are carefully and properly prepared and supplied, and in such a form as to be exactly fitted to the temperament and constitution.

POPULAR REMEDIES USED FOR SELF-TREATMENT OF ASTHMA.

There are numerous remedies that may be used to *relieve paroxysms* of asthma. Among them we will notice a few that are most frequently employed by the profession. They can be easily and inexpensively prepared by any patient or druggist:

1. Equal parts of the tinctures of lobelia, capsicum and skunk-

cabbage root. *Dose.*—Take a half teaspoonful in a little water every ten or fifteen minutes until relieved.

NOTE.—This is an anti-spasmodic and relaxant. In considerable quantities it will produce sickness at the stomach and perhaps vomiting. It should not be used when there is disease of the heart.

2. Chloroform. *Dose.*—A small quantity (say thirty drops), may be poured upon a handkerchief or napkin, held about one inch from the nostrils and the vapor inhaled. It is quite unnecessary to use this until insensibility follows; in fact, such an effect would be hazardous to life in the hands of the inexperienced.

3. Sulphuric ether. *Dose.*—The same as No. 2, and with the same precaution. Either of them should be used promptly upon the beginning of the paroxysm.

4. Take four ounces of stramonium leaves and strip from the stems, rubbing between the hands to partly pulverize. To this add one ounce of saltpetre, finely powdered. *Dose.*—Place a half teaspoonful upon a very hot shovel. Inhale the rising smoke. If the first few inspirations cause coughing, the smoke should not be evaded as the coughing incites deeper inspiration.

5. Stramonium and saltpetre as in No. 4. Dampen with water and make into balls or cones. These are more easily handled and are fired in the same way as the powder and used in the same way.

6. Take of sunflower leaves, stramonium leaves, mullein leaves, one ounce each; of lobelia leaves, half an ounce; of powdered nitre, one ounce; and benzoic acid, two drams. Mix thoroughly. *Dose.*—A pipeful, to be smoked the same as tobacco.

7. A cup of hot coffee or several of hot water. This is especially effective in cases arising from checked perspiration, from rheumatism, etc.

These recipes are given to the public as being the principal agents employed by the medical profession throughout the world. It must be distinctly understood that they are not *curative* but merely *palliative*, and used to relieve paroxysms. We object to them wholly and unqualifiedly because they contain NARCOTICS. It is a fundamental principle in our treatment not to use this class of remedies. They stupefy the brain, debilitate the nervous system, and have, in not a few instances, formed an unfortunate appetite and habit, most difficult to overcome. We are of the opinion that one of the chief reasons why this malady has been considered incurable is the fact that physicians have almost universally relied upon narcotic drugs. With such medication a cure is the exception. A cure can only be effected under such circumstances when the *powers of nature are sufficient to overcome both the* NARCOTIC *and the* DISEASE. That they will *relieve* we do not deny, but *they will never cure.* It reminds us of an old country doctor who advised a lady to smoke tobacco to cure acid dyspepsia. She followed the prescription for over thirty years and at last accounts was not cured

yet. In all seriousness we ask would any other remedy except a narcotic or stimulant be used with such persistency for anything like this length of time? Is it not apparent that such agents form a habit which is often worse than the disease, and yet fail to effect a cure? We appreciate the necessity for relief, and do not blame sufferers for availing themselves of any means for this purpose. But they should not be satisfied with relief only, but should look about for such a system of medication as will rid them of the disease completely and permanently. If a week's or a month's exemption is a "foretaste of heaven," how incomparable are the comforts and happiness to be derived from a life-time immunity?

MILLIONS OF DOLLARS

are annually spent upon the advice of physicians, in traveling expenses, and hotel bills, by sufferers from asthma, or phthisic, in seeking a change of climate that will be advantageous. It is the last expedient of the doctor who is annoyed by the continued complaint of his unrelieved patient, and can only be made available by the wealthy. In some instances the change is beneficial, but to be effectually so a permanent change of residence is required. Most patients are unable or unwilling to do this. In some cases change only affords temporary relief, the attacks returning after a few months. Even the wealthy dislike to take such chances. The less opulent cannot think of such methods, and hence are compelled to bear their sufferings as best they can. In the majority of instances the "change of climate" is only an illusion, or only temporarily beneficial at best. We can tell them a better way, and if they are wise they will follow it.

HAY ASTHMA, OR HAY FEVER.

This affection, known also as Hay Catarrh, Hay Fever, or Rose Cold differs but little in its manifestations, from coryza, or cold in the head, save in its *inciting cause*, and in its element of periodicity. In this latitude there are persons who, during summer or early fall, are invariably attacked with acute congestion or inflammation of the upper air-passages, giving rise to sneezing, watery discharges from the nose and eyes, difficult respiration, fever, and general prostration. These symptoms are supposed to be induced by the inhalation of pollen or odors from grasses or flowers, which at that time are supposed to give off certain exhalations of an irritating character. Unless arrested by medical treatment, the disease lasts until cool weather, or the occurrence of a hard frost rids the atmosphere of the exciting influence.

Some feather beds give off an odor which excites all the aggravated symptoms of this disease. Thus it appears that certain emanations

have the power of inciting these inflammatory conditions in certain sensitive constitutions. In all individuals suffering from this disease there is an over sensitiveness of the nervous system which admits of the appearance of such sudden and severe manifestations. Many cases suffering only mild symptoms for the first few seasons, annually become aggravated until severe spasmodic asthma is a regular, and sometimes continuous complication. A case or two are on record in which the odor from the body of a horse so induced these symptoms that the individual could never ride or drive him.

Treatment. In mild cases, or when the attack first appears, the daily use of Dr. Sage's Catarrh Remedy fluid will neutralize and wash away the poisonous particles which have found lodgment in the nasal passages. The Remedy is best applied with Dr. Pierce's Nasal Douche. When the disease has existed the previous season it is necessary that the patient begin both constitutional and local treatment four or six weeks prior to an expected return of the disease. The nervous system should be strengthened, and the resistance of the patient to the irritating influence of these pollens and odors so increased, that even though he may be exposed, no severe symptoms will follow.

Dr. Pierce's Golden Medical Discovery will be found invaluable as an alterative, blood purifier, and nerve tonic, and should be taken regularly while Dr. Sage's Catarrh Remedy is being used locally for its antiseptic and curative properties. The action of the "Discovery" is especially desired in cases that are so far advanced as to be attended with asthmatic symptoms, such as difficult breathing, headache, and a feeling of lassitude and prostration.

In very obstinate or distressing cases our specialists have been able to prescribe and send, by mail or express, special courses of treatment which have proven so effective as to cure the disease *permanently*, so that it has not reappeared the following season. The treatment seems to have produced such an impression upon the system as to have fortified the individual against a return of the disease.

In rare cases morbid growths in the upper air-passages are of such a nature as in themselves to be a source of sufficient excitement to unbalance the nervous equilibrium so that the individual is thus rendered more susceptible to this disease. In such, or exceedingly obstinate cases a personal examination by our specialist is desirable, and often results in the use of such measures as give permanent relief.

TESTIMONIALS.

If the following letters had been written by your best known and most esteemed neighbors they could be no more worthy of your confidence than they now are, coming, as they do, from well known, intelligent, and trustworthy citizens, who, in their several neighborhoods, enjoy the fullest confidence and respect of all who know them.

Out of thousands of similar letters received from former patrons, we have selected these few at random, and have to regret that we can find room only for this comparatively small number in this little book.

BLEEDING FROM LUNGS, CONSUMPTION.

(*Before.*)
C. H. HARRIS, ESQ.

(*After.*)
C. H. HARRIS, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I wish to say to you that Doctor Pierce's Golden Medical Discovery saved my life and has made me a man; my home-physician says I am good for forty years yet. You will remember that my case was a case just between life and death, and all of my friends were sure it was a case of death, until I commenced taking a second bottle of "Golden Medical Discovery," when I was able to sit up and the cough was very much better, and the bleeding from my lungs stopped, and before I had taken six bottles of the "Golden Medical Discovery" my cough ceased and I was a new man and ready for business.

And now I feel that it is a duty that I owe to my fellowmen to recommend to them the "Golden Medical Discovery" and Dr. Sage's Catarrh Remedy, which saved my life when doctors and all kinds of medicines failed to do me any good.

I will send to you with this letter two of my photographs; one was taken a few weeks before I was taken down sick in bed, and the other was taken after I was well. Yours respectfully,

C. H. HARRIS,
No. 1622 Second Avenue, Rock Island, Ill.

SEVERE CHRONIC COUGH.

Wilbar, Wilkes Co., N. C.

DR. R. V. PIERCE, 663 Main Street, Buffalo, N. Y.:

Dear Sir—I cannot recommend your "Golden Medical Discovery" too highly. I had a severe chronic cough and I began to use that medicine and took only one bottle, and I have not been sick a day since. When I began to use your "Golden Medical Discovery" my weight was 104 pounds, and now I weigh 125 pounds.

Yours very truly,

Mrs. Anna Parons

SPITTING OF BLOOD. LUNG DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

J. M. HITE, ESQ.

Gentlemen—I can gladly recommend Dr. Pierce's Golden Medical Discovery to all suffering from diseases for which you recommend it. In the summer of 1888 I took a severe cold, which settled on my lungs and chest, and I suffered intensely with it. I tried several of our best physicians here and they gave up all hopes of my recovery, and my friends thought I would have to die, and I thought so myself, as the doctors did not know what was the matter with me. In the morning, on rising, I would cough and spit blood for two hours, and I was pale and weak and not able to work any. I then ran across Dr. Pierce's advertisement and I came to the conclusion I would try the "Golden Medical Discovery," as it was so highly recommended. I was greatly discouraged when I began the use of the "Discovery," but after I had taken four or five bottles I then noticed I was getting better, and I could stand it to work some, and kept on taking it till I took about twenty or twenty-five bottles. It has been five years since I took it and have had no return of that trouble since. I gladly recommend your medicine for I know it saved my life. Yours respectfully,

JOHN M. HITE,
Audubon, Audubon Co., Iowa.

LUNG DISEASE.

Blue Rock, Muskingum Co., Ohio.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—I feel like taking you by the hand and saying, "thank God, you have saved my wife," for we had given her up. We had sat by her, when the doctor said she could not live till morning; so bad was her lung disease. Dr. Pierce's Golden Medical Discovery cured her.

MR. THOMAS MCGILL.

MRS. MCGILL.

When her case was reported to the specialist of the Invalids' Hotel, Mrs. McGill was suffering from pain in the chest, struggling for breath, hard dry cough; jarring hurt the chest; short breath, backache; uterine disease, leucorrhea, menstruation scanty and painful; feet and ankles swollen; was confined to house most of the time; was given up by her home physician. Her disease began six years before with "lung disease" which was followed by bleeding from lungs.

CONSUMPTION AND HEART DISEASE.

Could Not Sleep or Rest. Wished to Die, to be Out of Misery.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

I. E. DOWNS, ESQ.

Gentlemen—For three years I had suffered from that terrible disease, consumption, and heart disease. Before taking Dr. Pierce's Golden Medical Discovery I had wasted away to a skeleton; could not sleep nor rest, and many times wished to die to be out of my misery. Step by step, the signs and realities of returning health gradually, but surely developed themselves while taking the "Discovery." To-day I tip the scales at one hundred and eighty-seven, and am well and strong.

The "Golden Medical Discovery" has also cured my daughter of a very bad ulcer located on the thigh. After trying almost everything without success, we purchased three bottles of your "Discovery," which healed it up perfectly.

Yours respectfully,
ISAAC E. DOWNS,
Spring Valley, Rockland Co., N. Y.

MALARIA, CHILLS, AND LUNG DISEASE.

R. WILLIAMS, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—It has been about eight months since I quit using Dr. Pierce's Golden Medical Discovery. When I commenced using it I only weighed 130 pounds. I had been suffering with malarial fever, chills, and lung disease for four years. I took treatment from many doctors, and tried many different kinds of patent medicines and all seemed to do no good. Since I have used four bottles of "Golden Medical Discovery" and one bottle of Dr. Pierce's Pleasant Pellets I feel well in every respect *and weigh 160 pounds instead of only 130*, my weight when I began its use. Yours truly,

ROBERT WILLIAMS,
Hazelton, Barber Co., Kas.

CONSUMPTION.

Almost Raised From the Grave.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I have long felt it my duty to acknowledge to you what your "Golden Medical Discovery" and "Pleasant Pellets" have done for me. They almost raised me from the grave. I had three brothers and one sister die of consumption, and I was speedily following after them. I had severe cough, pain, copious expectoration, and other alarming symptoms, and my friends all thought I had but a few months to live. At this time I was persuaded to try your "Discovery," and the first bottle acted like magic. Of course I continued on with the medicine, and as a result I gained rapidly in strength. My friends were astonished. When I commenced the use of your medicines, six years ago, I weighed but 120 and was sinking rapidly. I now weigh 135, and my health continues perfect. I have a copy of your "People's Common Sense Medical Adviser," and neither money nor friends could ever induce me to part with it.

MRS. VANSICKLIN.

Twelve years later, Mrs. Vansicklin writes: "My health still continues *perfect*. I now weigh 148 pounds. Your book—the Common Sense Medical Adviser is a treasure in our home." Yours truly,

MRS. H. H. VANSICKLIN,
Brighton, Ont.

J. A. HENSON, ESQ.

CONSUMPTION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Two years ago I thought I had consumption, and was continually coughing day and night, and not able to work. I bought six bottles of Dr. Pierce's Golden Medical Discovery and it did me more good than all the other medicine I ever took, and now I am feeling all O. K., and I weigh 165 pounds. Two years ago I weighed 145 pounds. I can fully recommend Dr. Pierce's Golden Medical Discovery to any person that has consumption. I remain, Yours truly,

JOHN A. HENSON,
South Bosque,
McLennan Co., Texas.

IT "FILLS THE BILL." LUNG DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—In 1872, when living in New York State, my health was very poor. I was clear "run down." Pain in my lungs, right side and in my bowels; had been ailing for nearly two years; my feet swelled during the day so I could hardly stand it till night, as I was on my feet the most of the time.

A. D. SIMMONS, ESQ.

I wrote you and you sent me special medicines, which brought me around all right. I have weak lungs, and when I get run down I usually take a few bottles of Dr. Pierce's Golden Medical Discovery, which always builds me up. We have used your "Discovery" in our family with the best results.

When living at Blue Mound I was very sick with inflammation of the lungs from taking cold. When I took cold I was at Clinton, Missouri. Was confined to my bed for a few days. I said to the doctor that I must go home; he advised me to stay where I was, but I started for Blue Mound with my pulse at 140. When I arrived home I was glad to get in bed, and called in Dr. ——. He said my lungs were in a bad condition. Well, I was very sick for three weeks or more, and when I got around I was not well, and at that time Dr. —— came to Blue Mound, stopped there two weeks, gave free lectures and had lots of patients. He examined me and said I needed treatment, and he could cure me.

I was suffering all the time with pain in my right lung. He wanted $50.00 for treatment, and would cure. So I let him pass along and wrote to your Association for advice, which was to take the "Discovery," and I took one-half dozen bottles which "filled the bill."

Yours respectfully,
A. D. SIMMONS,
Emporia, Lyon Co., Kansas.

CONSUMPTION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—It is my pleasant duty to you and to suffering humanity to acknowledge the benefit I received from Dr. Pierce's Golden Medical Discovery. About seven years ago I became troubled with my lungs—consumption in its first stage. Some of my friends in Ontario had been using your medicine before I knew anything of it; and after coming to this country, I commenced taking it, and I think it has done wonders for me. I am positive, that if any one will persist in taking it, it will do all you say. It has done so much for me that I feel it my duty to testify to its wonderful curative properties.

Respectfully,
MRS. JESSE K. SMITH,
Baldur, Selkirk Co., Manitoba.

MRS. SMITH.

LUNG DISEASE, PRONOUNCED CONSUMPTION BY HOME DOCTORS.

J. H. CHENOWETH, ESQ.

DR. PIERCE, Buffalo, N. Y.:

Dear Sir—In January, 1890, I was taken with the "Grippe." In June began to cough up hard substance like lime rock; sometimes the lumps would be as large as half a grain of coffee; some days I would cough up *a thimbleful a day*. The doctors whom I doctored with said I had consumption in the worst form, so I quit them and wrote to you and took your "Golden Medical Discovery." I took twelve bottles in all. It has now been one year last July since I coughed up any hard substance.

I am well and hearty—don't cough any more and weigh more than I ever did in my life.

Yours respectfully,
JAMES H. CHENOWETH,
Oak, Nuckolls Co., Neb.

LUNG DISEASE.

DR. R. V. PIERCE, Buffalo, N. Y.:

J. J. HUME, ESQ.

Dear Sir—I cheerfully make the following statement: In February, 1893, I was attacked with a severe illness. It came on very gradually, and was attended with a severe cough and expectoration; also had pain in the lungs; had chills and night sweats; was much reduced in strength. After trying for relief in different directions without success, I was induced to apply to your eminent Staff of Physicians at 663 Main St., Buffalo, N. Y., and I am happy to say that my improvement began as soon as I began the use of the medicines which were prescribed for me at that time. The improvement has been continuous, until I now feel my lungs are entirely cured; have no cough, no expectoration in the last month, and my usual weight of 183 pounds has been restored. Have been able to do a fair day's work any time during the past two months without unusual fatigue. I can cheerfully recommend your Institution to persons similarly affected, and will authorize you to refer any one making inquiry to me. Yours respectfully,

J. J. HUME,
Corfu, Genesee Co., N. Y.

LUNG DISEASE, SEVERE COUGH.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

MRS. JEWELL.

Gentlemen—I want to say a word in favor of your medicine. I can not do it justice by mere words.

I was taken sick the 5th of July; I called a doctor but did not receive any benefit from him. I was going into quick consumption. Had a terrible cough, raised a great deal of phlegm; had pain through chest, was very weak and "all run-down." I told my husband to get a bottle of "Golden Medical Discovery"; he did so; I commenced taking it and I began to get better. I was not outside of the door yard, from July 5th, until August 22d. I only took two bottles, and the first of September, I was able to do the work for boarders, and have had boarders ever since. It is the grandest medicine ever invented.

Respectfully,
MRS. CHARLES JEWELL,
(P. O. Box 610),
Cadillac, Wexford County, Mich.

CHRONIC COUGH.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

W. H. CLOSSON, ESQ.

Gentlemen—I had a chronic cough for a long time after having grip, and could get nothing to relieve me until I tried Dr. Pierce's Golden Medical Discovery.

The young lady about whom I consulted you was a remarkable case. She had either painful or irregular (or both) menstrual periods for eight years, accompanied with headaches of the most intense severity. After about two months' treatment by your remedies—"Favorite Prescription" and "Golden Medical Discovery"—she menstruated without pain for the first time.

Another remarkable case has come under my observation. The wife of my hired man was strong and healthy except during the latter stages of pregnancy; she had severe attacks of flooding, once for two weeks, and her legs would become swelled and painful. The doctors did all they could by bandaging, and remedies, but to no avail, while one or two bottles of your "Favorite Prescription" entirely relieved her of these distressing symptoms. These statements are **absolute facts.** Respectfully yours,

W. H. CLOSSON,
Highland Creek, York Co., Ont.

DESPONDENCY.

Nervous Prostration—Threatened with Consumption.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

H. CUMMINS, ESQ.

Gentlemen—I have felt inclined to say to you, and your whole staff of physicians, and now do convey to you, my heart-felt gratitude for your able and skillful assistance rendered me in my afflictions. I had been for years a sufferer, and at times nearly despondent. I had been treated by the most able and skillful physicians that this north-western country could provide. I had paid them large sums of money and was finally given to understand that there was no hope for my cure. Your advertisements fell into my hands, which treated upon my case. I read and compared my case with the insight you so ably explained, so I was satisfied you understood your profession well. I started full of hope and as I reached Buffalo, after three days' travel by rail, some 1,500 miles, there was something that cheered me on. I made my way to your Invalids' Hotel. I was examined and pronounced curable. I was operated upon for a local affection that caused much of my suffering, the same day I arrived, and in ten days was discharged permanently cured. I have felt perfectly well ever since. I was nicely treated by the able nurses and attendants who were always gentle and kind.

I can cheerfully say to the public, that they need not hesitate in throwing themselves into your kind care in every case that is curable by the hand of man, and you will treat them honestly.

Hoping this may be of some benefit to some afflicted persons who may feel some diffidence in trusting themselves in your hands.

Yours respectfully,
H. CUMMINS,
Eagle Lake, Blue Earth Co., Minn.

LUNG DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I am much better, and believe it was through your medicine and advice that I am as well as I am. I might have been entirely well if I had been able to have kept the medicine to take as directed. I have taken only four bottles, and it would be four or five months from the time I would take one bottle till I could get another one. I can talk better, and feel almost like a new person to what I did two years ago. I weigh more and can do any kind of work. Dr. Pierce's Golden Medical Discovery is the only medicine that did me any good,

Your friend,
MRS. RACHEL D. FISHER,
Silver Point,
Putnam Co., Tenn.

MRS. FISHER.

CHILLS AND LINGERING COUGH.

H. DIETZEL, P. M.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—In 1879 I wrote you after suffering eighteen months. I had tried three doctors—took over one dozen bottles of patent medicines, without relief.

I had chills with hacking cough; my friends said I had consumption; was reduced in flesh and nerve till the least work or exercise would exhaust me completely.

Thanks for the day I wrote you, for I sent you ten dollars, and received four bottles of medicine which I took, and have been able to do hard work. I have never had any symptoms of those dreaded chills since. My weight got as low as 135 pounds; now I weigh 175 pounds. I would advise any one affected with chronic disease to consult you, as your treatment is genuine.

Yours truly,
HENRY DIETZEL, P. M.,
Ernst, Clark Co., Ill.

HEREDITARY CONSUMPTION.

Home Doctors Opposed His Coming to Us (they often do) Although Unable to Help Him Themselves.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—For the benefit of the afflicted, I wish to say, that I visited your Institution in 1889, completely broken down in health and suffering, as I thought, from heart disease and consumption. I had spent money with many of our home physicians, but they only gave me partial relief and I would soon be worse than ever. When I spoke of coming to you, the doctors here cried "humbug," but I told them I had been humbugged at home and if I staid I would surely die, and if I went could do no worse. I spent thirty days at your Invalids' Hotel and Surgical Institute, and came away like a new man, comparatively speaking. I found the Institution all it had been represented, and I may truthfully say, that the time spent there was to me as an oasis in a desert to a weary and thirsty traveler; for those were among the happiest days of my life. No pains were spared to make each patient comfortable and at home. I cannot recommend your Institution too highly, for I feel that to your treatment I owe my life. I have sold a great deal of your medicines, and recommend them with the same faith I would water to the thirsty. They, the "Pellets," "Golden Medical Discovery" and "Favorite Prescription," give universal satisfaction. You are at liberty to use this as you desire, for my only motive in writing is to benefit the afflicted, by pointing out to them a place of cure; for, no matter what their disease, I am confident that if medical skill can avail, they can be cured at the Invalids' Hotel and Surgical Institute. Yours truly,

J. F. JONES, ESQ.

J. F. JONES,
Raleigh C. H., Raleigh Co., W. Va.

ABSCESS OF LUNG. REDUCED ALMOST TO A SKELETON.

Bisbee, Cochise Co., Ariz.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I had been confined to my bed four months, had tried the skill of four doctors and all the patent medicines that were recommended for my case, which was an abscess on the lung. My physicians and friends had given me up to die; I was reduced to a perfect skeleton; my strength was gone; my eyesight was so dim I could scarcely see at all, and I had no appetite—could not eat anything at all when I commenced using Doctor Pierce's Family Medicines. I have taken sixteen bottles of the "Golden Medical Discovery," twelve bottles of "Pellets" and three bottles of "Favorite Prescription," and to-day I am well and strong and weigh 128 pounds—two pounds more than I ever before weighed in my life. Your true friend,

Mrs Sarah A Kelly

LUNG DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—My daughter had pneumonia and it left her with a horrible cough and one lung was almost gone; our doctor seemed to think there could be nothing more done, and said to go South; but not having the means at that time, I began giving her Dr. Pierce's Golden Medical Discovery, which she took steadily for two years. During that time she gained rapidly in strength; the lungs became normal, the cough leaving her entirely. We are never without this medicine in the house, and have recommended it to all our friends, and I am positively certain that if Dr. Pierce's medicine is used in time, it will cure in other cases as well as in this one.

Yours respectfully,
MRS. RUTH A. SICKLES,
Ocean Port, Monmouth Co., N. J. (Box 33.

MRS. SICKLES.

MRS. MILLS.

REDUCED TO A SKELETON.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Having felt it a duty to write of the good I received by taking your medicine, I now would say. that one year ago I was given up by my family physician and friends; all said I must die. My lungs were badly affected, and body reduced to a skeleton. My people commenced to give me your "Medical Discovery" and I soon began to mend. It was not long before I became well enough to take charge of my household duties again. I owe my recovery to Dr. Pierce's Golden Medical Discovery.

Respectfully yours,
MRS. MIRA MILLS,
Sardis, Big Stone Co., Minn.

COUGH AND NIGHT SWEATS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—In regard to your medicines I will say that they are always in the house. I shall never forget those nights when I was down with pneumonia. Had it not been for Dr. Pierce's Golden Medical Discovery I would not be a well man to-day. One bottle stopped the cough and night sweats.

My wife was troubled with leucorrhea so bad that we did not know what to do until Dr. Pierce's Favorite Prescription was brought into the house and gave her rest.

Yours truly,
H. M. DETELS,
Traver, Tulare Co., Cal.

H. M. DETELS AND WIFE.

PULMONARY DISEASE. A WONDERFUL CURE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I am 29 years old. During the winter of '84 I contracted a severe cold, which settled on my lungs. Each succeeding winter my cough grew worse, and in the winter of '85 I had chicken-pox, and taking cold, drove them in causing me a severe spell of sickness. The following summer I had congestion of the lungs and hemorrhage and a severe spell of fever. My physician advised me to go West in search of health. My friends thought I had consumption of the lungs, I coughed so much. In September, 1889, I left Carthage, Mo. (where I then lived), for Phœnix, Ariz. After I had been there about four months I had a severe attack of "*La Grippe*" and with this I coughed myself almost (I thought), to death; and to add to my distress I had an almost intolerable attack of pleurisy. A doctor was summoned and after an examination said I had Empyemia, and said he could do me but very little good until he removed the pus. He and his partner came and by the use of an aspirator drew off nine pints of pus; after about a week he drew off two pints. After a few days I told my doctor I could hear the pus gurgle as I had before he drew it off. Strange to say, but nevertheless true, my heart was crowded over on the opposite side for three months. I knew it was there for I could feel the pulsations there, and I was so short of breath for a long time I could not stoop down to tie my shoes.

CHAS. E. LEES, ESQ.

The doctor told me it would be useless again to use the aspirator, but that he would be obliged to make an incision in my side and treat it till I got well.

On the 28th day of March, 1890, my doctor and his partner and three other doctors undertook the operation, and, after removing about two inches of one of my ribs, withdrew 16 pints of pus. This came near being too much for me though I slowly recovered and in three months the doctors thought I was able to come home. I arrived home in June and was very poorly all summer, and did not sit up but *very little* and had fever every day. In the latter part of the summer of '90 I commenced to take "Golden Medical Discovery" and although my side had been discharging for TWENTY-THREE MONTHS it healed up sound and well. I am now able to do considerable hard work. I would advise all who are afflicted as I was, to give your medicine a trial. I am glad I have out-lived my friends' expectations. Yours truly,

CHARLES E. LEES,
P. O. Box 2, Winslow, Washington Co., Ark.

MRS. WHITE.

THROAT AND LUNG DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I was troubled with throat and lung disease for about two years and lost strength so that I was unable to do much work. I took four bottles of Dr. Pierce's Golden Medical Discovery, and can say that it did more good than any other medicine that I ever took. I am now able to do my work, and enjoy good health. Yours truly,

MRS. JULIA WHITE,
Willow Creek,
Blue Earth Co., Minn.

WEAK LUNGS, COUGH, PROFUSE EXPECTORATION AND CATARRH.

MR. ANTON KRATZ, of *Crawford, Dawes Co., Neb.*, had weak lungs, cough and catarrh, with profuse expectoration; difficult breathing, lasting from one to eight hours. He writes:

"I took sick and went to the doctors. They gave me medicine, but it did not help me, so I got two or three bottles of 'Golden Medical Discovery' and some 'Pellets.' After awhile I got better, until three winters ago I got sick again so I could not do anything, and I wrote to you giving my symptoms on one of your question blanks, and asked you about my case. You told me to take your 'Golden Medical Discovery.' I took four bottles and got well and have been well ever since."

A. KRATZ, ESQ.

MRS. LINCOLN.

LUNG DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION:
Buffalo, N. Y.:

Gentlemen—Before taking the "Discovery" I would have four or five bad coughing spells every day and would cough up mouthfuls of solid white froth, and before I took one bottle it stopped it. I could not walk across the room with the pain in my back and sides; but soon the pain was all gone, and I could sleep well at night. My general health is much better since I have taken the "Golden Medical Discovery" although I have been obliged to work hard on a farm. Respectfully yours,

MRS. JOHN LINCOLN,
Glen Annan, Huron Co., Ont.

CONSUMPTION AND GENERAL DEBILITY.

Cured by Special Home Treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I had pain in lungs and across the chest; had been spitting blood for the past six years. Menstruation was scant and caused great prostration. Suffered from constipation; cutting pains about the stomach and rumbling in the bowels; exceedingly nervous; indigestion. She writes as follows: "I wish to inform you that I am well. I never can praise you or your ways of treatment enough. I shall bring you all the patients that I can. I feel so rich to get my health back. I can eat well and sleep well, and work all day. I suppose you will think it took a long time to pull me up, but I was very low, much worse than I ever told you of at the time. I was not able even to feed myself any more. My husband had to undress me. I could not wash my own face, or stand alone. I did not lie down to sleep for eleven months; I always had to sit up, because I would choke if I laid my head down. *I have not raised a drop of blood since your treatment*, and I did it always for five years before. Our minister said this spring that he had never thought I could live, and says that he advises every one that is sick to go to you. He was so surprised to see how strong and well I was. My relatives all think that you ought to write my case up for the papers in Chicago. I can never repay you for what you have done for me. 'A thousand thanks' is but empty words. My husband was telling a man just last week, 'do not spend all your money in Chicago, as we did, and then write to Buffalo, but go and write now, and your wife will soon be well.' My father was saying that he wished the doctors that gave me up could see me now. I think they could not believe their own eyes. I am astonished when I think back how I was six years ago; I could not walk across the room alone for three years, and after taking your treatment for eighteen months, I am *completely* well. I can hardly believe it myself when I read over those letters that I received from you. I work hard every day. There is never a day that you are not remembered. I hope that you may live many years to do for others what you have done for me. I had this taken so that you might have my picture as I am now; I wish you could have seen me as I was then, and I wish to thank you for those little notes of inquiry that you used to send to find out how I was getting along, which showed that I was remembered not only while the money lasted, but that you cared for me after that." Respectfully yours,

MRS. F. NIENHUIS.

MRS. F. NIENHUIS, Crawford, Cook Co., Ill.

"COMPLETELY WRECKED."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Last August I was taken sick of a fever and was confined to bed for nearly six months. I had four doctors to see me, but it just seemed to me that they could relieve me for only a short while. I had a bad cough and all thought I was going into consumption. After being sick for so long, my nerves were nearly exhausted and my stomach, liver and bowels refused to act, in fact, my whole system was completely wrecked. I could not rest nor sleep, unless influenced by some drug and at last, mother concluded to try your medicines on me. She had taken them about a year before and had been greatly benefited by their use, so she said I will try the last resort—for I had been given up to die.

I began taking your "Golden Medical Discovery" and "Pleasant Pellets." I improved rapidly—was soon able to be up in my room, and to my surprise, I could eat a little of nearly everything I desired. Before I began the use of your medicines, I could eat nothing in peace; I would almost cramp to death, even when I took a little cold water.

But after the use of four and a half bottles of your "Golden Medical Discovery," and two vials of "Pellets," with God's help, I have almost risen from the dead.

MISS LINDSEY.

I will cheerfully recommend your remedies to my afflicted friends, for I am to-day, well and strong as ever. You can use this among your testimonials, if you choose, with my greatest approval.

Very Respectfully yours,

MISS LOULA LINDSEY, Ringgold, Pittsylvania Co., Va.

B. F. WILEY, ESQ.

BRONCHITIS OF TWENTY YEARS' STANDING.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I had bronchitis for twenty years and over, and I could not work without coughing so hard as to take all my strength away. I took five bottles of Dr. Pierce's Golden Medical Discovery, and give you my word and honor that I can do any work that there is to do on my "ranch" without coughing. Sometimes in the winter when exposed to the change in the weather, I have a slight attack of coughing. Remember, I have not taken any of the "Golden Medical Discovery" for a year. Yours,

B. F. WILEY,
Box Elder, Converse Co., Wyo.

BRONCHITIS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I was troubled with bronchitis for over two years, had severe cough and great difficulty in breathing; appetite was poor and suffered from indigestion, became very weak and despondent. My age (I am now 71) was against me. I was treated by two physicians but they did me no good. I then used four bottles of your "Golden Medical Discovery" and was entirely cured, for which I am very thankful. Yours truly,

M. M. ALEXANDER,
Hedrick, Alexander Co., N. C.

M. M. ALEXANDER, ESQ.

LUNG DISEASE.

Schuylersville, Saratoga Co., N. Y., (P. O. Box 396).

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Something over a year ago I wrote to you about my lungs. I used Dr. Pierce's Golden Medical Discovery besides using Iodine and mustard paste. That pain in my lung entirely left me, and I have not felt it at all since last August. The doctor who lives here and who has always treated me thinks it is a great cure. Words cannot express my gratitude to you. I am now able to do a good day's work. Yours gratefully,

Lulu E. Bangs.

MRS. TRAPHAGEN.

CHRONIC SORE THROAT, COUGH, HOARSENESS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I am feeling well at the present time; I took fourteen bottles of Dr. Pierce's Golden Medical Discovery. I had chronic sore throat, hoarseness, sore chest, rheumatism in my arms, and was very much run down. The doctor here at home said one lung was affected and that I had symptoms of consumption. I know that your "Golden Medical Discovery" was the cause of regaining my health. I remain,

Respectfully yours,
MRS. MARY TRAPHAGEN,
No. 6 Front Street, Poughkeepsie. N. Y.

CONSUMPTION. BAD COUGH, SPIT UP BLOOD.

K. C. McLin, Esq.

World's Dispensary Medical Association,
Buffalo, N. Y.:

Gentlemen—When I commenced taking your "Discovery" I was very low with a cough, and at times spit up much blood. I was not able to do the least work, but most of the time was in bed. I was all run-down, very weak, my head was dizzy, and I was extremely despondent. The first bottle I took did not seem to do me much good, but I had faith in it and continued using it until I had taken fifteen bottles, and now I do not look nor feel like the same man I was one year ago. People are astonished, and say, "well, last year this time I would not have thought that you would be living now." I can thankfully say I am entirely cured of a disease which, but for your wonderful "Discovery," would have resulted in my death.

Yours truly,
K. C. McLIN,
Kempsville, Princess Anne Co., Va.

LUNG DISEASE.

Coughed Day and Night.

World's Dispensary Medical Association,
Buffalo, N. Y.:

Gentlemen—Three years ago I was so sick I could not eat, sleep or walk, for I coughed all day and night. My weight was reduced from 150 to 127 pounds. The first night that I slept four hours at one time, was after I had taken three doses of Dr. Pierce's Golden Medical Discovery. The offensive matter expectorated grew less every day and when I had taken the whole of one bottle I could sleep all night without coughing, and have been well ever since and weigh 178 pounds.

Respectfully yours,
Mrs. L. F. COATES,
Blythebourne, Kings Co., N. Y.

Mrs. Coates.

BILIOUSNESS, CONSTIPATION, BAD COUGH.

World's Dispensary Medical Association, Buffalo, N. Y.:

Gentlemen—Some twenty-five years since I was feeling very miserable all summer; I was very bilious; sometimes my bowels would not move once in sixty or seventy hours, and then almost impossible. I would take some bitters, which would help to move the matter, but as soon as the bitters were gone, I had to buy more or I would be as bad as before. and sometimes worse; but none of them appeared to do me any good except to move the bowels, until thirty years since a druggist called my attention to Dr. Pierce's Golden Medical Discovery, and before I had taken half a bottle of the "Golden Medical Discovery" I felt much better and by the time I had taken all, I could eat three hearty meals per day and had not felt so well for a long time. Soon after I was called to do a job some miles from home, and one night the old lady there was speaking about her daughter, (Mrs. Brooks) who had been under the doctor's care for five months and did not get any better, and I learned by asking a few questions that she had no appetite, and no ambition to do anything. Then I told her what the "Golden Medical Discovery" had done for me. The next day the old lady drove down to her daughter's, and got Mr Brooks to send to Rutland—ten miles away—for two bottles of the "Golden Medical Discovery." and the next day the doctor came, and when about to take leave, Mr. Brooks told the doctor he did not want him any more at present and would send for him if necessary. I saw the old lady about ten days later and her daughter was improving, and Mr. Brooks had great faith in the "Golden Medical

G. I. Wilder, Esq.

Discovery," and had not sent for the doctor, but had gone to Rutland for more of the "G. M. D."

When I commenced taking the "Golden Medical Discovery." I thought I was going into consumption as I had a cough for three years or more and my weight decreasing. My weight before taking the "G. M. D." was 133 pounds; last March it was 147 pounds, and I give the credit to the "Discovery."

Yours respectfully,
GEORGE I. WILDER,
East Wallingford, Rutland Co., Vt.

MRS. BRIGNER.

THROAT AND LUNG DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I had complicated chronic disease for several years—throat and lung and other affections, which almost resulted in consumption. Our doctors could do me no good. I happened to get hold of some of Doctor Pierce's books, and was induced to try his treatment. To the surprise of myself and family. I was, in a short time, changed almost to a new person—from pale sallow complexion to the bloom of health again. Many thanks for restoring me from an untimely grave. I will say to the public it is not always necessary to go to the Institute; I was treated at home with success. I cannot speak in too high praise of Dr. Pierce's Golden Medical Discovery, "Pellets" and "Favorite Prescription." I think they will do all that is claimed for them.

Respectfully, MRS. ALMEDA BRIGNER,
Oxford, Furnas Co. Neb,.

SEVERE LUNG AND BRONCHIAL DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—For some time I have been troubled with a severe lung and bronchial disease, following a severe attack of pneumonia. Was raising a great amount of pus, had severe night-sweats and was very much prostrated, when I was induced to visit Dr. Pierce's Invalid's Hotel and Surgical Institute for examination. After having a full statement of my case, I paid for one month's treatment in the Sanitarium and during that time was fully restored to health. I can not speak too highly of the physicians, and this famous Institution.

I take great pleasure in making my cure public and in highly recommending this Institution to all afflicted. The Staff of Physicians and Surgeons is skillful and of large experience, and I feel confident that all the benefit that can possibly be obtained from medical treatment, can be obtained at the Invalids' Hotel and Surgical Institute.

Yours truly,
EUGENE CAMPBELL,
New Cumberland, Hancock Co., W. Va.

E. CAMPBELL, ESQ.

MRS. FERGUSON.

DYSPEPSIA AND CONSUMPTION.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—I was not able to do my work for nearly two years, and I tried four different doctors and grew worse all the time. Then I began on your medicine and took twelve bottles of "Golden Medical Discovery" and one of "Favorite Prescription," and am able to do my work and feel as well as I have felt in years. Physicians called my disease Dyspepsia and Consumption.

Respectfully yours,
MRS. R. FERGUSON,
Ink, Shannon Co., Mo.

LUNG DISEASE CURED.

MISS M. H. SNEAD.

Will you please accept a few lines from me thanking you for your skill in preparing your medicines and placing them within reach of the suffering. I have a daughter, Miss M. H. Snead, who has been very low, was almost given up by two physicians, who treated her with their best skill, and did not receive much benefit. She was first attacked with pneumonia and pleurisy in very bad form and was then taken with a very bad cough, which kept growing worse and worse, until finally it seemed as though she had consumption very bad. The physicians prescribed Cod liver oil, but to no benefit. Mrs. Miller, a neighbor of ours, recommended Dr. Pierce's Golden Medical Discovery to me with very strong faith, as she had been in the same condition and was cured by its use. I procured two bottles and she grew better. She hasn't felt any return of lung disease in over twelve months. She was nothing but a skeleton when she took the first dose, and to-day she weighs 135 pounds. I thought it my duty to write to you in regard to her case, as so many other medicines had failed, and it has acted like a charm.

Respectfully yours,
MRS. SARAH E. SNEAD.
Clio, Iredell Co., N. C.

DISEASE OF LUNGS AND STOMACH.

Locust Lane, Scott County, Va.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I am happy to inform you that after consulting you by letter and two months' trial of Dr. Pierce's Golden Medical Discovery, I am enjoying a better state of health than I have for some time. I have had weak lungs for several years—at times spit up blood. In January, 1893, I took a severe cold, which settled on my lungs—had a very bad cough, it seemed as if my lungs were swollen; could not expectorate much at a time, very hard to get up; suffered much with pains in my chest; was reduced in flesh and became very weak.

Physicians prescribed for me but I found no relief until I consulted you. It seemed I was going into consumption very fast. I have as good health now as could be expected. I am fifty-seven years of age and able to work on my farm, and feel under many obligations for your kind advice. Also my stomach was out of order, suffered with burning in my stomach and chest. I have no burning nor pains in my stomach and chest now. Yours truly,

Milton Ramey

DOCTORS ENDORSE IT.

An Eminent Physician of Arkansas Tells of Some Remarkable Cures of Consumption.

Dr. PIERCE:—I will say this to you, that Consumption is hereditary in my wife's family; some have already died with the disease. My wife has a sister, Mrs. E. A. Cleary, that was taken with consumption. She used your "Golden Medical Discovery," and, to the surprise of her many friends, she got well. My wife has also had hemorrhages from the lungs, and her sister insisted on her using the "Golden Medical Discovery." I consented to her using it, and it relieved her. She has had no symptoms of consumption for the past six years. People having this disease can take no better remedy.

Yours truly,

W. C. Rogers M. D.

Stamps, La Fayette Co., Ark.

MRS. ROGERS.

A. ROSENBERGER, ESQ.

CHRONIC BRONCHITIS AND DYSPEPSIA.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Several years ago I spent many dollars for medicine, but in vain, and expected to die with consumption. But hearing of your Invalids' Hotel and Surgical Institute, I visited you.

To your advice and treatment I owe my life and present good health.

Hoping that you and your eminent faculty may be spared many years to cure the afflicted, I send you my best wishes.

Yours truly,
ALBERT ROSENBERGER,
Laotto, Noble Co., Ind.

"SORE THROAT."

Palatka, Putnam Co., Florida.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—About seven years ago I was taken with sore throat and tried some home remedies, and it grew worse; and then I went to a doctor here in town, and after trying his remedies for three or four months, which did me no good, then I tried Dr. ——— remedies; and still I grew worse for two years when I wrote you about it. You advised me to take Dr. Pierce's Golden Medical Discovery and his "Pellets," according to directions, and they would cure me, and so they did, after taking eight bottles of the "Discovery," and the "Pellets" to keep my bowels regular. We now take the "Discovery" and "Pellets" for all our aches and pains, and think there are no medicines half so good. We use no other.

Yours truly,

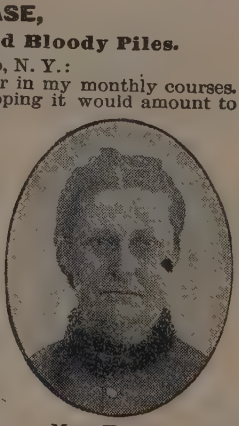
Mrs. Ellen Calvert

LUNG AND WOMB DISEASE,

Dropsy, Sick Headache, Dyspepsia and Bloody Piles.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—In the winter of 1881, I became irregular in my monthly courses. Of course at first I paid but little attention to it, hoping it would amount to nothing and probably wear away. But I slowly but surely grew worse, and at last resolved to apply to the doctors for help. My water came often, and in small quantities, and with great pain, and with red brick-dust deposit. I was attacked with severe womb trouble, bloody piles and dropsy of the ovary. I was treated by five different doctors. I was compelled to wear an inside support for a year, but it still seemed impossible for me to get well and I began to feel exceedingly alarmed and very uneasy, not knowing what course to pursue, or what the consequences might be. I had heard of Dr. Pierce, and concluded to make one more trial, so I sat down and wrote a letter to him, stating matters as near as I could, and in due time I received a favorable reply; then I commenced with his medicine. I commenced somewhere in February 1891 with the "Golden Medical Discovery" and "Favorite Prescription," in alternate doses. A strange occurrence followed. My limbs felt like what we call "asleep," and I felt as if I were in a strange land and wondered what was going to take place. I kept on till I took nine bottles. The first relief I felt was from sick headache, which I had been troubled with for many years; I was also cured of a very bad cough which I had been troubled with for many years, and of dyspepsia of long standing. I was entirely cured of a very singular and severe itching on my back, between my shoulders, which our doctors called winter itch and which they pronounced incurable. I had suffered with this for twenty years; it would come in the winter and go away in the summer. I was also cured of the worst form of bloody piles and of womb disease. At present I feel like a new person.



MRS. KNAVEL.

When I first commenced with Dr. Pierce's medicines, I could not walk half

a mile without a pain. The other day I walked to Mercersburgh post-office, a distance of twelve miles, and the next day walked back again, and felt no bad results from the journey. I am now 51 years old.

Mrs. Knavel further writes, that "To any person desiring to know more concerning my case and its wonderful cure, and who will enclose to me a return self-addressed and stamped envelope for reply, I will be pleased to write further information." Yours respectfully,

SARAH A. KNAVEL,
Indian Springs, Washington Co. Md.

MRS. NEAL.

BRONCHITIS AND LUNG DISEASE.

Mrs. Neal, of Crockett Mills, Tenn., had an attack of measles, followed by *bronchitis* and *pneumonia*. Her husband writes: "I feel gratified with the effect of your wonderful medicine. I can recommend it to anybody, and feel I am doing them justice. My wife was not able to perform her household duties for six months. She has used two bottles of 'Golden Medical Discovery,' and is now able to do all her work. I think it the finest medicine in the world, and I am, gratefully,

Your life-long friend,
J. B. NEAL."

BLEEDING FROM LUNGS; CHRONIC CATARRH; VERY LOW.

Cured by Special Home-Treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION:
Buffalo, N. Y.:

Gentlemen—I was very low—almost given up by two physicians who treated me with their very best skill and did not receive much benefit. I was attacked with "La Grippe" in December, 1891, and pleurisy, and was taken with a very bad cough, which kept growing worse. The physicians prescribed Emulsion of Cod Liver Oil, but no benefit. In June, 1892, I bled from the lungs; everybody thought I would die. A friend told me to try Dr. Pierce's medicines. I did so, and after taking six months' home-treatment I was cured. When I commenced taking his treatment I only weighed 130 pounds, now I weigh 175, and can do as good a day's work as I ever could. I can cheerfully say that I believe I owe my life to his valuable medicines. Yours truly,

G. RILEY SPRINKLE,
California Creek, Madison Co., N. C.

G. R. SPRINKLE.

MRS. VAN BOSKIRK.

LUNG DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I was troubled with my lungs and stomach for five years. I could do no work hardly until I used Dr. Pierce's Golden Medical Discovery. After using five bottles of the "Golden Medical Discovery" and three vials of the "Pleasant Pellets" I was cured, and now I am doing the work for a family of nine. I tried other medicines and nothing would do me any good, and if I had not gotten your medicine I would have been in my grave. I could not recommend it too highly for the good it did me; it is the best medicine I ever got hold of.

MRS. E. C. VAN BOSKIRK,
Selin's Grove, Snyder Co., Penn.

"COMPLETELY BROKEN DOWN"

From Dyspepsia, Catarrh, Spinal Disease—Nervous Prostration.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I wish to express my heartfelt thanks to you for the wonderful cure that your special remedies performed in my case. In the Spring of 1891, I had a severe attack of La Grippe, which left me in bad shape. I consulted as good a physician as there was in the county, and he told me that I was suffering from enlargement of the heart and that I must be very careful about taking any violent exercise, and I must not allow myself to get excited, as excitement of any kind might prove fatal. He gave me remedies for my trouble which made me feel some better; but being a farmer I was obliged to work hard and soon began to run down. I began to have spells of a terribly deathly sinking feeling at my stomach and a terrible pressure at the heart—in the region of the heart, and sometimes I would fall prostrate and although I was conscious all the time I could not speak aloud.

C. M. NILES, ESQ.

The last of October, 1891, while doing my chores in the morning, I had one of those bad spells and upset my lantern, which resulted in my losing my buildings by fire.

My wife was out of health at that time—she, too, was suffering from the effects of La Grippe. Having lost everything eatable for ourselves and stock, I was forced to work very hard to get through the winter. The next February, 1892, we had another attack of La Grippe, which resulted in the death of my beloved wife. The next May, this terrible affliction together with hard work completely broke me down and although I was doctoring all the time I kept steadily growing worse. I got so bad that I could not sleep more than two or three hours any night and very often I would go all night without closing my eyes at all.

The last of September, I had to give up work almost entirely. I got so that I *could not walk one-fourth of a mile without being completely exhausted.* One physician whom I consulted said I was suffering with nervous prostration and gave me medicine for it, but I got no better. My food distressed me terribly and after eating, it would sour and I would have to vomit up the most that I had eaten. At last, I got so I had to live on bread made of wheat middlings and for about three months I could not eat anything else, although it seemed as though I should starve to death. I thought I would give anything if I could eat a hearty meal of anything that I wanted, but did not dare to because every kind of food distressed me so. My bowels became badly constipated and for three months I did not have a natural operation of the bowels; and I suffered very much with catarrh, and there was such a pressure across my forehead that it seemed sometimes as though it would burst. I became very despondent. I did not want to go anywhere, neither did I want to see any one, everything looked dark and gloomy to me. When well, I was naturally of a lively disposition and a great hand to joke with my friends, but no one could say anything funny enough to get a smile out of me then. I was always very fond of music too, but I could not bear to hear a bit of music, neither vocal nor instrumental. About the first of February, 1893, some of my friends prevailed upon me to consult a physician who made a specialty of treating chronic nervous troubles; he said I had no organic trouble of the heart and that it was caused by my stomach being out of order; he said that I had a bad kidney trouble and that my spine was affected, and that unless I got help it would end in "Locomotor Ataxia." He said he could help me but it would probably take a year to cure me. He let me have a month's treatment and gave me advice in regard to diet, etc. I thought for awhile that it was helping me but soon I began to go down hill again, and as a last resort I began to take some of the cure-alls (patent) with which the country is flooded; but I soon became disgusted with them and made up my mind there was no help for me. I had to use about all the strength I had to walk; I could not lift my left foot up to step over anything—had to draw it after me; I could hardly sleep; neither could I transact any business, in fact I did not take any interest in any of my affairs. It seemed to me as though I did not have a friend on earth, and I longed for death to come to put me out of my misery.

My son, with whom I was living, had been trying for a long time to get me to send to you for treatment, but I had paid out so much money and received no benefit from it, that I did not believe there was any help for me.

At last I thought I would write you what I could of my symptoms, and get your opinion of my case, but it took me about two days to write the letter. My head felt so bad that I could not collect myself enough to describe my feelings. You wrote me that my trouble was caused by indigestion, dyspepsia, catarrh, and spinal affection, and that you could cure me, and in fact, make a new man of me if I would send for your special treatment and follow your advice. My son sent for the medicine for me. I took it and followed your directions as near as I

could; the first week I could not see much of any change—the second week I could see that I was improving some, the third week I could look back and see that I had gained considerable. I could sleep better; the bloating in my bowels did not trouble me so bad; my stomach did not distress me so much and I could eat different kinds of food and my digestion seemed to be improving fast; and by using your Special Catarrh Remedy my nose began to run (it had been nearly six months that my nose was perfectly dry) and one day it felt as though something gave way in my head—it seemed to be back, in behind my eyes, and I blowed a large amount of filth out of my head that looked like the yolk of an egg, and it was nearly as thick as jelly; after that my head began to improve rapidly and I began to gain in flesh and strength, and the best of all is, I have kept right on gaining until at the present time *I feel as well as I ever did in my life.* Sleep well, can eat three hearty meals every day and digest them too, and eat anything I want, and seven days in a week.

To look back now I don't see why I did not apply to you when I was first taken sick. For about ten years ago, I had treatment of you for catarrh, liver and kidney trouble, and you helped me then; also, about eight years ago my wife had two months' treatment from you which helped her of the troubles from which she was suffering at that time. All the reasons that I can give, is, that owing to financial troubles and having to pay out so much for sickness, I could not seem to get the money (that I could spare) to pay for the treatment.

Gentlemen, I wish I could express my thanks to you for what you have done for me, but I cannot do it. I am a poor hand to express myself, but I consider my restoration to health almost a miracle, and I firmly believe that I owe my life to you, for I do not believe that I should have lived till the present time had it not been for your Special Treatment. Now, if there is any part of this letter that you would wish to publish, you are at liberty to do so; and if it would be the means of directing any suffering fellow being to a place where they can get relief, I shall be very thankful. Respectfully, C. M. NILES,

East New Portland, Somerset Co., Maine.

CATARRH, INDIGESTION, AND NERVOUSNESS.

E. A. BALDWIN, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—For a long time I was suffering from indigestion, catarrh and nervousness. I was so run down that I could not go to school, and, as the various remedies I tried did me no good, I applied to you, and was advised to try a course of special treatment. After taking only two months' medicines from your noble institution, I feel perfectly restored to health. I have, moreover, recovered my lost flesh, and I am pleased to say need no further medicines.

Yours truly,

E. A. BALDWIN,

Proctorsville, Windsor Co., Vermont.

NASAL CATARRH.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—My daughter had for many months severe nasal catarrh with sores forming on the inside of nose; if not attended promptly the sores would come out on bridge of nose and also in the corner of nose and upper lip. We had several physicians attending her, but they gave her only temporary relief. We were advised by a friend who had used your remedies to try them. After using thirteen bottles of Doctor Sage's Catarrh Remedy, and at the same time two bottles of Doctor Pierce's Golden Medical Discovery my daughter was completely cured of the dreaded disease and in the past three years has had no symptoms of the disease ever coming back. I am satisfied the above medicines will cure any kind of catarrh.

Yours truly, JOSEPH POLLAK,

McPherson, McPherson Co., Kan.

MISS POLLAK.

CHRONIC NASAL CATARRH

Resulted in Lung Disease. Despaired of Obtaining Relief.

DR. R. V. PIERCE, 663 Main Street, Buffalo N. Y.:

H. J. CONVERSE, ESQ.

Dear Sir—Without solicitation from you, I feel it my duty to suffering humanity, to make known the virtues of your medicine in curing catarrh. About ten years ago, I first began to realize that I was the victim of nasal catarrh; I tried every known remedy, but gradually grew worse. My ears would gather and break; nights of restlessness would succeed days of agony. The disease finally attacked my left lung, and I despaired of obtaining relief. About six years since I began the use of Dr. Sage's Catarrh Remedy, in connection with the "Golden Medical Discovery," and by the persistent use of the above remedies I feel that I am completely cured of this loathsome disease.

For attacks of biliousness, coughs and colds, I think there is nothing equal to the "Discovery," and I bless the day that I first began the use of your remedies. Very respectfully,

HOWARD J. CONVERSE,
Civil Engineer,
Plain City, Madison Co., Ohio.

A TERRIBLE CASE OF CATARRH.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I suffered for two years with catarrh in the head, having very severe pains in the top of my head. A bunch came on the side and back of my head—my whole head and face were so sore and sensitive that a pillow of down felt hard, and I was obliged to change my position often. I could not breathe through my nose at all and was obliged to keep my bed fully one half of the time, and could not collect my thoughts to think steadily on any subject—I was really afraid of losing my reason. I got all run-down and was "out of sorts" in general; then I commenced using Dr. Sage's Catarrh Remedy and Dr. Pierce's Golden Medical Discovery. To-day my health is good and I have no catarrh. Yours truly,

MRS. JAMES LANSING,
Fort Edward, Washington Co., N. Y.

MRS. LANSING.

CATARRH AND GENERAL DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

THOS. LEWIS, ESQ.

Gentlemen—Being an invalid for many years and trying home physicians without benefit, I went to the Invalids' Hotel and Surgical Institute, and can most highly recommend this place to all sufferers. I had a severe attack of catarrh and general debility, and after a short stay at this Institute, my whole system was toned up and I was soon enjoying perfect health.

I can truthfully say that this institution fully merits all the praise that could be given it. I never lose an opportunity to recommend all my suffering friends to the Faculty of this Association, for I believe it is in advance of its kind in the world. The physicians and surgeons are skillful and of wide experience, the nurses kind and thoughtful, the rooms large and pleasant, and everything is done to make the visit of any one pleasant as well as beneficial in the highest degree.

I do not hesitate to urge all invalids, no matter what their trouble, to place themselves under the care of the eminent physicians of this institution, being confident that they can give them all the relief that possibly can be obtained from medical treatment and skill. Truly yours,

THOMAS LEWIS,
Kamas, Summit County, Utah.

CATARRH AND LIVER COMPLAINT.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

WM. KING, ESQ.

Dear Sirs—After suffering for several years with nasal catarrh and liver complaint, and having become greatly reduced in health, as a last resort I placed myself in your hands for treatment. My improvement began almost immediately after entering your institution. I was enabled to leave at the end of one month, having experienced great benefit. The treatment was continued at home for a few months, after which my cure was complete. At the present time, I am able for office work, and feel that I am completely cured of the catarrh and have but little if any trouble with my liver. I shall lose no opportunity to recommend your institution or your medicines to the afflicted. I do most unhesitatingly recommend chronic sufferers to visit your institution or take your remedies at home.

Sincerely yours,
WILLIAM KING,
Rose Bud,
Pope Co., Ills.

CATARRH, BRONCHITIS, LIVER COMPLAINT AND DYSPEPSIA.

Ely, White Pine Co., Nevada.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—For ten years I was greatly afflicted with Catarrh, Bronchitis, Liver Complaint, and Dyspepsia. I tried many doctors and remedies to see if I could not obtain relief, but I grew constantly worse instead of better.

I heard much concerning the Invalids' Hotel and Surgical Institute at Buffalo. I concluded to go there and try and obtain some benefit. I staid a month in this famous Institution, and during that time made fine improvement. and when I left felt like another man.

I can truthfully recommend this world-renowned Institution to all the afflicted. The Institution itself, in all its appointments, is far in advance of the age. It is more like a home than a hospital; the rooms are large and pleasant; the table the very best; the nurses kind and considerate, and the doctors skillful and of wide experience. While there I saw and talked with a great number of people who had come to this Institution as a last resort, and they were all unanimous in their praise.

I cannot say too much in favor of the World's Dispensary Medical Association and its Staff of skilled attendants, nor can I too strongly urge all sufferers to go there, being confident that all within the power of medical science and skill can be done for them there. Would send you my photograph as requested, but there is not a photograph gallery within a hundred miles of here. Yours truly,

D. D. Phillips

BRONCHITIS; CATARRH.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
663 Main St., Buffalo, N. Y.:

MRS. OSBORNE.

Gentlemen—I was troubled for several years with bronchial disease, having a severe cough a good share of the time. Some of my friends thought I had consumption; I got so weak I could scarcely walk across the floor, and raised a good deal. I commenced taking Dr. Pierce's Golden Medical Discovery and my cough soon got better, and I have not been troubled with it since. That was four years ago; I took only three bottles. I would recommend it to all having throat or lung trouble. I have also used Dr. Sage's Catarrh Remedy with equally good results. I believe that no one need suffer long with chronic catarrh who is within reach of this remedy.

Yours respectfully,
MRS. LENA OSBORNE,
Ripley, Chautauqua Co., N. Y.

NASAL CATARRH, LUNG DISEASE, INDIGESTION, ETC.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Five years since my family physician pronounced my case Pulmonary Consumption. Since that time I have taken various treatments, some of which have given relief. One treatment that was administered for nasal catarrh, from which I continued to be affected, caused erosion of the mucous membrane, and destruction of the bony septum which separates the two nostrils. Took cold quite easily, suffered from considerable nasal catarrh, with discharges passing posteriorly dropping into the throat; occasional cough with some shortness of breath on exertion. A deep inspiration caused a dizzy sensation in the head; eyesight was impaired as well as the memory. After sitting for a time, and then quickly rising I suffered from blindness as well as a dizzy feeling in the head. I never felt that I was entirely cured of my lung trouble, having many of the symptoms which are common to those in the incipient stage of consumption. I also suffered from indigestion, torpidity of the liver, and constipation of the bowels.

H. A. MILNE, ESQ.

Upon consulting at your Institution, was advised at once to begin the course of specially prepared medicines as indicated in my case. In all, I have only taken two months' special treatment, and it has now been six months since I have required any medicine; all symptoms of disease have entirely disappeared, and I desire to thank you for the interest you have taken in my case, and the treatment prescribed. I have no objection to your publishing my testimony, if by so doing others may be induced to place themselves under your care for treatment at your Institution, or have medicines sent to their homes.

Respectfully yours, H. A. MILNE,
Mekinock, Grand Forks Co., North Dakota.

CATARRH IN HEAD AND WOMB DISEASE.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—I have used Dr. Sage's Catarrh Remedy and taken Doctor Pierce's Favorite Prescription, and I have found great relief from both. I have felt better ever since and am still improving. They are wonderful medicines. I have recommended them to several and I am in great favor of Dr. Pierce's medicines.

Sincerely yours,
MISS BARBARA LEWIS,
Syracuse,
Morgan County, Mo.

MISS LEWIS.

CATARRH IN THE HEAD.

O. J. RAASTAD, ESQ.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—Some five years ago my system commenced to run down with heavy headache, obstruction of the nasal passages, discharges falling from the head into the throat, and was compelled to use my handkerchief every five minutes. My memory was impaired, appetite also. I consulted doctors who said I had chronic catarrh in the head, but not being benefited I was induced by a friend to try Dr. Sage's Catarrh Remedy and Dr. Pierce's Golden Medical Discovery. I have used three bottles of the former and eight bottles of the latter, and am now cured permanently. I am very grateful to you by reason of being the means whereby I was cured and would advise those afflicted to use your remedies.

Yours truly,
O. J. RAASTAD,
Moorhead, Clay Co., Minn.

NASAL CATARRH AND DYSPEPSIA.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

MRS. NUCKOLLS.

Gentlemen—Twenty years ago I was nearly dead with nasal catarrh. I had it several years before I knew what it was, then I read Dr. Pierce's description of catarrh. I felt as he described. No one else had ever been able to tell me anything of the symptoms he described. I simply concluded that if he could so minutely describe, he could also relieve, and I immediately placed myself under his treatment—by correspondence. In a few months I was entirely relieved and have not suffered from it since.

At the time I placed myself under his care I could not breathe with my mouth closed. My friends thought I could live only a few months more. I have had no return of catarrh and enjoy good health. I believe Dr. Pierce's treatment will cure any case of catarrh.

Nine years ago I was under Dr. Pierce's treatment (by correspondence) for dyspepsia. After a few months' treatment I was entirely cured of that terrible disease.

Yours respectfully,
MRS. HENRY NUCKOLLS,
Rockville, Hanover County, Va.

CATARRH OF TWENTY YEARS' STANDING.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

J. WEAVER, ESQ.

Gentlemen—My catarrh was of about twenty years' standing; my left nostril closed, I could not breathe through it; had a constant pain above my left eye night and day. I commenced using Dr. Sage's Catarrh Remedy, at the same time using the "Golden Medical Discovery"; I used one package and one bottle of "Golden Medical Discovery" and I found great relief; after using the second I thought all was right, but I began to feel the effects of it again, so I got the third and fourth packages, and I am satisfied I am rid of it. Since I commenced using your medicines, I have taken six bottles of Dr. Pierce's Golden Medical Discovery.

Yours respectfully, JOHN WEAVER,
West Carrollton,
Montgomery Co., Ohio.

CHRONIC NASAL CATARRH CAUSES GREAT SUFFERING.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

MRS. CROCKER.

Gentlemen—I had been a great sufferer from nasal catarrh for a number of years which greatly debilitated my system, and in consequence, have been in poor health for the last five years.

Slight exposure would cause bronchial trouble, but kept up under it until a little more than two years ago when I was taken with "La Grippe," which greatly aggravated my other troubles; and for more than six months before consulting you was scarcely able to do anything; *could not breathe through my nostrils* only a little while at a time either day or night; I suffered *dreadfully*, having at times *terrible pains in my head* being unable to sleep some nights more than two hours and then not without dreaming, and when I awoke my head felt worse then when I retired. Had indigestion, chronic constipation and stomach trouble.

A little more than a year ago, while reading in one of your Memorandum Books I decided to try your Dr. Pierce's Golden Medical Discovery, "Favorite Prescription" and "Pellets;" and after using several bottles, I began to get better and to get some strength, but my catarrh remained about the same until I consulted you by letter and the remedy prescribed proved effectual; after three months' treatment, I am able to do most of my house work.

Yours respectfully, MRS. SARA M. CROCKER.
P. O. Box 332, Niantic, New London Co., Ct.

CHRONIC NASAL CATARRH.

Thought His Case Hopeless—Two Bottles Cure.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

A. G. MEISE, ESQ.

It gives me great pleasure to testify to the merits of Dr. Sage's Catarrh Remedy. I can say honestly and candidly that it is the grandest medicine ever compounded for catarrh. I suffered terribly with that dreadful disease and thought my case a hopeless one. I have expended on my case about forty dollars for different remedies guaranteed to cure catarrh in its worst form, but received no benefit therefrom. I also received treatment from two physicians, but they did me no good. Having read a great deal about Dr. Sage's Catarrh Remedy, I concluded to try it. The first bottle gave the most pleasing results, and the second bottle completely cured my case, which I considered hopeless. I most heartily recommend Dr. Sage's Catarrh Remedy to all suffering from catarrh, with the assurance that it will surely cure. It is a great boon to suffering humanity. Hoping that this humble testimony may be the means of leading many sufferers to try your most valuable medicine with the same happy results as I experienced, and wishing you the best of success. I am,

Yours sincerely, AUGUST G. MEISE,
Vincennes, Ind.

NASAL CATARRH.

Naples, Uinta Co., Utah.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I have been using Dr. Sage's Catarrh Remedy and have been taking "Golden Medical Discovery" since I last wrote to you. I am well pleased with the result. I feel better than I have for years. The "Golden Medical Discovery" caused a very unpleasant sensation to pass through my body at first but I do not feel it much now. I have recommended it to others and the only complaint I hear now is that our druggist cannot keep a supply on hand.

I take pleasure in reporting my case to you, and I feel that the interest you have taken in my case has been a blessing unto me.

My mother has suffered with bad legs for over twenty years and last fall they got so bad she was unable to walk. She has taken "Golden Medical Discovery" all winter and is now able to walk a little. She says she feels better in body than she has for years. She has spent the most of her life among the sick and speaks very highly of your medicines. Yours truly,

Geo A. Slaugh

IMPURE BLOOD AND CATARRH.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

Gentlemen—My health is better now than it has been in ten years. I used six bottles of "Golden Medical Discovery," and three bottles Doctor Sage's Catarrh Remedy, and since using your medicines I have been able to do more work than before. I have been teaching school since my health got better and last year I was able to travel and preach fifty-nine sermons, besides my work of teaching.

For four years I suffered with catarrh in my head, and impure blood, until my health was very feeble. Dr. Pierce's Golden Medical Discovery I found to be the best blood-purifier I ever used. Had I not used your remedies I believe that I would have been dead to-day, or at least not able to say anything. But instead of that I am able to walk one and one-half miles and teach school every day.

Yours truly,
REV. J. H. TATE,
Wahoo, Sullivan Co., Tenn.

REV. J. H. TATE.

B. EBERHARDT, ESQ.

CATARRH AND DYSPEPSIA

Cured by Special Home-Treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I am happy to inform you that my catarrh and dyspeptic symptoms have all vanished. I am no longer troubled with headache and stoppage of the nose, my stomach is in good order, and I enjoy three hearty meals daily without any bad feelings.

I have gained in almost every respect, particularly in weight and strength, since beginning the use of your specially prepared medicines. By continuing to follow your special hygienic rules, I believe no relapse will occur. Yours respectfully,

BERTHOLD EBERHARDT,
N. E. Cor. 10th and Callowhill Streets,
Philadelphia, Pa.

NASAL CATARRH.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I have used your Dr. Sage's Catarrh Remedy and Dr. R. V. Pierce's Golden Medical Discovery and they cured me of a severe Catarrh in the Head. I can honestly recommend them to all who may suffer from that distressing disease. Yours truly.

M. D. INGRAM,
Ingram, Bell Co., Ky.

Mr. Ingram had suffered for many years from the most distressing symptoms, such as profuse offensive discharge from nose, stopping up of nose, sneezing, weak eyes and frequent headache.

M. D. INGRAM, ESQ.

CHRONIC NASAL CATARRH AND LUNG DISEASE.

Marlow, Baldwin Co., Ala.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I had catarrh in the head for years, and trouble with my left lung at the same time. You put so much faith in your remedies that I concluded to try one bottle or two, and I derived much benefit therefrom. I used up three bottles of Dr. Sage's Catarrh Remedy, five bottles of your "Golden Medical Discovery," and in four months I was myself again. I could not sleep on my left side, and now I can sleep and eat heartily. So long as I have your medicines on hand I have no need of a doctor; I do not think my house in order without them.

Yours truly,

A. H. Heard

PROF. W. HAUSNER.

A DEBT OF GRATITUDE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Some ten years ago I suffered untold agony from chronic nasal catarrh. My family physician gave me up as incurable, and said I must die. At this time I weighed 110 pounds. My case was such a bad one, that every day, towards sunset, my voice would become so hoarse I could barely speak above a whisper. In the morning my coughing and clearing of my throat would almost strangle me. By the use of Dr. Sage's Catarrh Remedy in three months I was a well man; the cure has been permanent, and I now weigh 148 pounds.

Yours truly,
PROF. W. HAUSNER,
Ithaca, Tompkins Co., N. Y.

CATARRH, DEAFNESS AND OTHER COMPLICATIONS.

M. C. WEAVER, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I take pleasure in announcing to you that I have been greatly benefited by your medicines; my trouble began with nasal catarrh and extended to my throat and ears; my bowels were inactive and my general health became impaired; my worst trouble, however, was dullness of hearing. I had an uncomfortable, bad feeling in my ears—akin to earache; I had a watery discharge from the nose; I had to hawk and spit a great deal at times; my mind was greatly affected also and had a great deal of pain in the head. Upon advice of friends to try your medicines I resolved to do so. Have used six bottles of your "Golden Medical Discovery" and two bottles of Sage's Catarrh Remedy. The pain in my head is gone and my health is greatly improved and am working every day, something I could not do before. My appetite is good.

Yours truly,
MORRIS C. WEAVER,
No. 171 E. Genesee St., Buffalo, N. Y.

BRONCHIAL DISEASE.

Clifford, Susquehanna Co., Penna.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—The doctors said I had bronchitis, and I doctored with five different physicians before taking your medicines. My throat would bleed from three to five times a day—half a dozen mouthfuls perhaps—as fresh as if you had cut your finger, and I was in a generally weakened state although able to be about the house, but the least exertion would make me tremble. Finally I purchased one of Dr. Pierce's Common Sense Medical Advisers, and read it a good deal, and so was induced to take your medicines. I took in all seven bottles of the "Golden Medical Discovery," one of the "Favorite Prescription," and one bottle of Dr. Sage's Catarrh Remedy, and some of the "Pellets," and they did everything for me—more than anything else I ever tried. In about six months' time I was well. Now, my throat does not trouble me unless I take cold. It has been about six years since I took your medicines, and I think they cured me.

I think there are no medicines equal to your medicines, and would recommend them to all suffering ones. Yours truly,

Mrs Lewis Johnson

CATARRH.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

D. MINER, ESQ.

Gentlemen—I had the catarrh in the head for about fifteen years; my head was always stopped up and I had pains almost constantly. My nose would run, and stuff would fall into my throat whenever I would lie down, and at other times it seemed dry and crusty, and then my head would become stopped up and I would suffer again.

I used cubebs and glycerine for a long time; they only relieved me while I was using them. I used several other kinds of stuff, but I received no benefit from them. I had nearly given up in despair. At last I came across one of your advertisements of Dr. Sage's Catarrh Remedy in one of your Memorandum Books, and I thought I would try it. It is the grandest thing on earth. I was thankful to God I found something at last to stop my suffering. May God bless you, dear friends, for saving my life.

I used your medicine about eight weeks; it only took two bottles to cure me sound and well after all the rest had failed.

Yours truly,
DAVID MINER,
Bridgeport, Marion Co., Ind.

N. M. HODGES, ESQ.

CHRONIC NASAL CATARRH.

Half a Dozen Bottles of Dr. Sage's Catarrh Remedy with Dr. Pierce's Golden Medical Discovery Cures Permanently a Bad Case of Chronic Nasal Catarrh.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663 Main St., Buffalo, N. Y.:

Gentlemen—I was suffering from chronic catarrh, and bought a half-dozen bottles of your Dr. Sage's Catarrh Remedy, also some of Dr. Pierce's Golden Medical Discovery to purify my blood and I am happy to say I am permanently cured of that disease.

Years after this letter was written Mr. Hodges informs us that his cure has remained permanent.

Yours truly,

N. M. HODGES,
Laketown, Rich Co., Utah.

CHRONIC NASAL CATARRH. STARTED WITH LA GRIPPE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I think it is time I reported my case to you, as it is five months since I began using your medicines. I have taken five bottles of Dr. Sage's Catarrh Remedy, and used it with Dr. Pierce's Golden Medical Discovery. I have no signs of catarrh now, and can say I never felt better in my life, then while taking your medicine. Two years later Mr. Thomas says: I have not been troubled with catarrh since taking the "Catarrh Remedy." I am a tenor singer and my voice almost left me when I had the catarrh but now my voice has come back. Yours respectfully,

E. W. THOMAS,
Box 18, Garden City, Miss.

E. W. THOMAS, ESQ.

CATARRH AND OTHER COMPLICATIONS.

North Berne, Fairfield Co., Ohio.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—My health is good. I am restored from weak eyes, weak stomach, catarrh, also female trouble. I took two bottles of Dr. Pierce's Golden Medical Discovery, one bottle of Dr. Sage's Catarrh Remedy. It took wonderful effect. I have recommended your medicines a great deal, and have done a great deal of work for you. I have been the cause of selling quite a quantity of medicine in this county, and I will do all I can for you. Yours truly,

Sarah Campfield

E. M. BAILEY, ESQ.

CATARRH OF EIGHT YEARS' STANDING.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I write this to let you know that I am well of that disease called catarrh of the head. Three years ago this fall I had catarrh in its worst form, till from three gills to one and one-half pints of corruption would be expectorated in twenty-four hours.

Then I noticed your advertisement. Six months after taking your medicines I thought it too soon to tell you, but I can now say that my money was well spent in buying your medicine, for it resulted in a permanent cure. The catarrh was of eight years' standing. Yours respectfully,

EDWARD M. BAILEY,
Taggart, Harrison Co., Mo.

DREADFUL COUGH. ABSCESS OF LUNG.

Brookeland, Sabine Co., Texas.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Seven years ago I was on the verge of the grave, with what the physician pronounced an abscess of the right lung. It lingered on for three years. During that time my side discharged large quantities of pus and I had a dreadful cough. I was so weak that I could not walk fifty yards without being completely exhausted. I had taken every kind of medicine that was recommended for similar maladies, such as cod liver oil, sarsaparillas, iron tonic and syrup of hypophosphites, without any relief. I was about discouraged when I commenced taking Dr. Pierce's Golden Medical Discovery. I took six bottles and it completely restored me to health. The discharge stopped from my side, and the cough has ceased. I am now able to follow my profession, which is a teacher of penmanship. I can walk ten miles any day without the least worry. If any one doubts this statement they can write me and I will verify the above statement.

F. BERRYMAN, Jr.

Trusting that this may be the means of assisting some one else who is suffering untold miseries, as I did before using the "G. M. D."

I am, fraternally thine,

F. Berryman Jr.

CATARRHAL DEAFNESS.

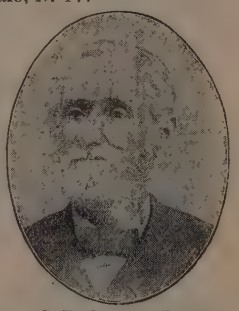
WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I was nearly deaf on the right side of my head. I used three or four bottles of Dr. Pierce's Golden Medical Discovery and four bottles of Dr. Sage's Catarrh Remedy with the Nasal Douche, in the first trial. Cold weather coming on I had to stop, as I could not use the Injector in freezing weather, but I was greatly benefited. Along towards spring I found it was coming back, from taking cold, and, after several trials of other remedies, I again began the use of your medicines, taking two bottles of the "Golden Medical Discovery" and three bottles of Dr. Sage's Catarrh Remedy, and I feel safe in believing I am cured as I feel no signs of its return. My health is very good for a man of 74 years of age and I am satisfied that Dr. Pierce's Medicines did it. I recommend them whenever I have a chance.

Yours respectfully,

S. P. GRAY,

Graham, Nodaway Co., Mo.



S. P. GRAY, ESQ.

BRONCHITIS. LIVER COMPLAINT.

318 E. 83rd St., New York City, N. Y.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I am extremely sorry not to have informed you sooner of the magnificent result I obtained from your most valuable medicines. When, sometime ago, I consulted you in regard to my affliction, bronchitis, I was indeed fearing the worst. But I had so much confidence in your medicines, which I had previously used for colds and liver complaint with good results, that I strictly followed your kind advice and continued taking it until I was assured of perfect health. I took five bottles of your Dr. Pierce's Golden Medical Discovery, using the "Pellets" combined as directed, and *the effect was magical*. I am now healthy and hearty. Heartily thanking you for your kind advice and assistance, I remain, gentlemen, Yours most respectfully,

Paolo Bettelini

LINGERING COUGH.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I contracted a cough during the winter of 1889 and tried many different kinds of cough medicines, but none did me any good. I at last became alarmed, and wrote to Dr. R. V. Pierce to know if he could prepare a medicine that would cure me, and I was advised to try his "Golden Medical Discovery," which I did, and am glad to say that only two bottles cured me after letting the cough run on from the winter of 1889 until the spring of 1893.

Yours respectfully,
MORGAN C. LILLY,
Holston, Washington Co., Va.

NERVOUS DEBILITY AND CATARRH.

MRS. HOFFMAN.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I have enjoyed good health since I took your treatment. I suffered intense agony for five months, and after taking one month's medicine I found very much relief—so much I was surprised.

Many thanks for the good your medicines have done me, and my prayers are that God may help you in your good work, and that you may live long and prosper.

Yours respectfully,
MRS. ALICE HOFFMAN,
Box 183, Clarksville, Butler Co., Iowa.

NERVOUS DEBILITY AND CATARRH.

Big Piney, Pulaski Co., Mo.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I was treated by you eleven years ago for nervous debility and chronic catarrh of eight years' standing and of a very aggravated nature. I was considered near my grave by many of my friends when I commenced treatment. I used eight months' special treatment, after which I used some 12 or 15 bottles of your Sage's Catarrh Remedy, and have had excellent health ever since.

Yours truly,

B. F. Drake

CURE OF DEAFNESS DUE TO CATARRH.

T. J. WILLIAMS, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—For several years I was troubled with catarrh and deafness of the right ear—the hearing becoming more and more defective until I could scarcely hear at all. There was a constant ringing, roaring noise in my ear, and finally the disease assumed a very painful form.

The ear became very sensitive to the touch, and the pain and inflammation extended into the eustachian tube and down into the throat. I could scarcely sleep at night, and during the day I suffered constantly.

I finally decided to consult Dr. Pierce, and acting under his advice, I began the use of "Golden Medical Discovery" and Sage's Catarrh Remedy by means of Dr. Pierce's Nasal Douche.

I soon began to improve and after using three bottles each of the above named remedies the pain and soreness left my ear, my hearing returned and I considered myself completely cured, and indeed there has been no recurrence of the trouble since.

Sincerely yours, T. J. WILLIAMS,
Byrneville, Harrison Co., Ind.

ASTHMA AND CATARRH.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—For some months I suffered from a shortness of breath and dryness in the throat which usually came on at night, and these symptoms gradually became aggravated until it was impossible for me to procure enough sleep so that I could perform my daily duties about the farm. Deriving no relief from such treatment as I was taking I came to your Institution, was examined by your specialist, who pronounced my case asthma, complicated with nasal catarrh. After using the special medicines which he prepared for me for a few days I commenced to feel better, the shortness of breath gradually disappearing; the paroxysms of asthma were less frequent and not so severe.

G. BERNER, ESQ.

After taking only two months' treatment I was completely restored to my previous good health, and for five months it has not been necessary for me to use any medicine, and I feel that I am perfectly well. I give you this testimonial in order that others who are similarly afflicted may know of your skill in treating cases of this nature, and seek relief from your Institution.

Respectfully,
GOTTLIEB BERNER,
Cheektowaga, Erie Co., N. Y.

ASTHMA COMPLICATED WITH BRONCHITIS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—It is five weeks to-day since I was at your place for medical treatment for a bronchial and asthmatic difficulty; it had got so bad that it was hard work for me to breathe if I moved around any; I have sat up many a night for when I laid down I could not get my breath. I had six different doctors to aid me—all the good they did me was to get my money. Can say, of a truth, that you have done me more good than all other doctors. One doctor said I would not live two years; that is four years ago and I am yet alive. I am sure I am now on the safe road to recovery with your treatment.

Yours, etc.,
T. E. STANTON,
Manlius, Onondaga Co., N. Y.

T. E. STANTON, ESQ.

ASTHMA, OR PHTHISIC.

A. F. BUTTLES, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—In gratitude to yourselves as well as to give my fellow sufferers the benefit of my experience I wish to say, that immediately after receiving your courteous reply to my letter, describing the difficulty in breathing after any extra exertion, I began taking Dr. Pierce's Golden Medical Discovery, and before I had finished the first bottle I was greatly relieved.

I have taken less than one-half dozen bottles, and although the disease was of about three years' standing, I can now do as big a day's work as any of my neighbors and as many of them, for all of which I am indebted to the "Golden Medical Discovery."

Yours respectfully,
AVERY F. BUTTLES,
Norden, Keyapaha County, Nebr.

G. H. BAILEY, ESQ.

NASAL POLYPI.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—It is with pleasure that I can testify to your skillful operation in removing a number of nasal tumors.

I had been a great sufferer from acute headaches, caused by the tumors, for years.

I cannot speak too highly of the benefit I received at your Institution the two months I stayed with you. I feel sure of a permanent cure as I do not have the headaches as formerly.

Yours respectfully,
GEORGE H. BAILEY,
Hinsdale, Cheshire Co., N. H.

ASTHMA CURED.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—My wife was afflicted with asthma for twenty years: as she grew older she grew worse. Her case was treated by three eminent doctors, but all failed; they told me there was no cure for it. Discouraged as I was, I resolved to try Dr. Pierce's Golden Medical Discovery; she used five bottles and two vials of your "Pleasant Pellets," which has made a permanent cure. She has gained twenty pounds in weight since the cure was effected.

Yours truly,
D. R. KYKER,
English, Cocke Co., Tenn.

MRS. KYKER.

COMPLICATION OF DISEASES.

A Grateful Patient's Words of Praise.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:

W. HENKEL, ESQ.

Gentlemen—Having been in your Institution as a sufferer from two distinct chronic diseases of years' standing, and having been placed under the charge of your specialists, I was speedily relieved of my afflictions. The Invalids' Hotel is a place as much like home as it is possible for such an institution to be. The physicians and surgeons are all expert specialists and thoroughly efficient; the nurses are very competent, attentive and kind; and, in fact, the whole *personnel* of the Invalids' Hotel endeavor to do their best to make the patients feel like being at home. I always felt while there as if I was one of the family. I gladly recommend your Institution to all persons who are afflicted with any kind of chronic disease, for from my own experience I *know* the professional staff will do all which they promise to do. Please accept my thanks for the speedy benefits and perfect cure of my diseases, and I think your Institution is worthy of the highest endorsement. Yours truly,

WILLIAM HENKEL,
No. 1917 Congress Street,
St. Louis, Mo.

MR. H. C. TROUP

ASTHMA.

Had to Sit Up all Night. Ten Doctors Failed!

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—I wish to write to you of my brother, Harry C. Troup, who has been sick for ten years with asthma. He has been treated by ten different physicians, who have said he could not be cured. He had to sit up all night, he got so short of breath; he suffered with fearful headaches and had a bad cough. After taking Dr. Pierce's Golden Medical Discovery and "Pleasant Pellets," he did not get short of breath, and can sleep all night.

Respectfully yours,
MRS. ISAAC LOTMAN,
Thurlow, Delaware Co., Pa.

ASTHMA, OR PHTHISIC.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—For six or seven years I have been a great sufferer from asthma, being for weeks so I had to sit in my chair night and day; and to all people suffering with the disease, I am glad to recommend your medicines of which I have taken only a few bottles. I now call myself cured, for I have not had asthma for a long time. Yours respectfully,

MRS. EMILY OWEN,
Hinsdale, Cheshire Co., N. H.

MRS. OWEN.

NERVOUS PROSTRATION FOLLOWING GRIP.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—In January of '90 I took the "grippe," went to work before I was well, was caught in a rain which gave me a very bad relapse, resulting in lung fever and complete prostration; was on my bed two months, and when I did get out, the strength to walk any more than just a few rods did not come back. My family doctor and two prominent physicians of Sioux City, did me no good. Late in the fall I got a bottle of Dr. Pierce's Golden Medical Discovery, which quieted my trembling nerves and gave me an appetite to eat. I then concluded to try the Doctor, personally. Up to this time I was in a pitiable condition. Sometimes I could not sleep until I felt almost wild, then sleep so much I would be stupified. I could not digest any food and my whole system was wasting and failing fast. I doubt if any one who saw me expected me to get well. I took the treatment sent me by the World's Dispensary Medical Association for more than a year. The medicine never gave me any distress as other medicines had done before. I began to improve from the start, but the change from one extreme to the other was like the growth of a child.

W. S. NICHOLSON, ESQ.

To any one suffering from nervous prostration I would say, "don't be impatient." It takes a long time for weakened nerves to grow strong. I have at last become strong and well, thanks to the Giver of all good and the grand Institution at Buffalo. I have since married a noble-hearted young woman, and when I am playing with our sweet, healthy, baby girl, I give way to the thought that at last the long, sad chapter of my life is ended; at such times her merry laugh sounds like a song of triumph of life over death.

Gratefully yours, W. S. NICHOLSON,
Willow Creek, Clay Co., Iowa.

DISEASES OF THE HEART.

Diseases of the heart are classified as either *functional* or *organic*. We shall dwell only briefly upon purely *functional* derangements of the heart; as *increased*, or excited action, *defective*, or enfeebled action, and *irregular* action.

Increased action of the heart, indicated by palpitation, or increased number of the beats, may be caused *mechanically*, as by distention of the stomach, which, by preventing the descent of the diaphragm, excites the action of this organ. Or it may be a *sympathetic* disturbance produced through the nervous system; thus the emotions and passions may suddenly arouse the heart to excessive action; or the presence of worms in the intestines, improper food, and masturbation, may be the cause. The use of tea, tobacco, and alcoholic drinks excites the heart. We have found that the excessive use of tobacco is very frequently the cause of functional derangement of this organ. Deficiency of the blood, as in anæmia, may be the cause of palpitation of the heart.

Functional disturbance of the heart's action is manifested by palpitation, irregularity, intermissions, a rolling or tumbling movement, and a feeling as if the heart were in the throat. These symptoms often give rise to great apprehension, anxiety, fear, and depression of mind.

Treatment. The curative treatment of functional derangement of the heart must have reference to the causes producing it. If it is in consequence of indigestion, the appetite and digestion should be improved by observing regularity in the time of taking the meals, and eating very easily-digested food. The use of strong tea, coffee, tobacco, and spirits, should be interdicted, and regular exercise, rest, and sleep should be enjoined.

In all cases, the domestic management should include daily bathing, exercise in the open air, regular habits, and the avoidance of all causes which tend to excite the heart's irregularity.

The remedial treatment of these functional affections ought to be confided to some experienced physician, as the remedies are not within the ordinary reach of all families, nor if they were, would they have sufficient experience and knowledge to select and properly administer them.

ORGANIC DISEASE OF THE HEART.

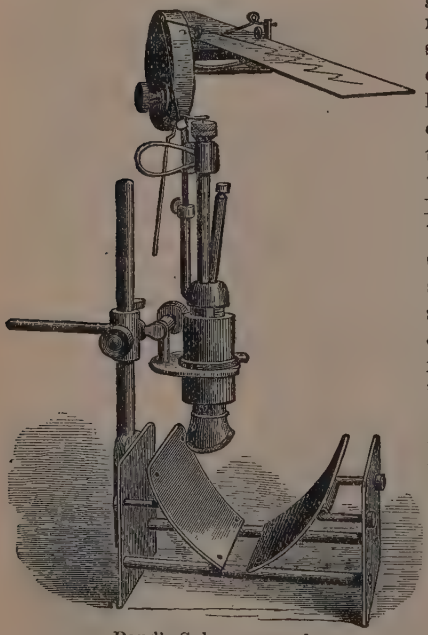
By organic disease we mean disease pertaining to the structure of the heart itself, in contradistinction to *functional* disease, which has reference merely to the *action* of the heart. The heart is subject to various organic diseases, but we have only space to consider, in the briefest manner, those which are the most common, It is essential that the reader should have some knowledge of the anatomy and functions of the various parts of the heart in order that its diseases and their effects may be comprehended; therefore the anatomy and physiology of this

organ, given in Part I, Chapter VII, of this work, should be carefully studied.

It is very evident that any disease which affects the structure and function of any part of the heart must, necessarily, give rise to certain modifications of the pulse, sounds, etc. It is through the observation and study of these modifications and changes that we arrive at a correct diagnosis as to the precise location and character of the disease.

Until within comparatively recent years, physicians were very much in the dark regarding diseases of the heart. Now, however, with a thorough knowledge of the anatomy, physiology, and pathology of the heart and the parts surrounding it, and with the aid of instruments which modern ingenuity has given us, we are able to diagnosticate with precision the slightest lesions of any part of this important organ, and, knowing their nature, to map out an appropriate course of treatment. With the aid of the stethoscope, invented by Laennec and improved upon by Camman, we are able to distinguish the slightest deviation from the normal sounds, and, by noting the character of the sound, the time when it occurs, the area over which it is heard most distinctly, and the direction in which it is transmitted, to locate the lesion which produces it. By the aid of the sphygmograph, first invented by Herrisson, and afterward improved upon by Ludwig, Vierordt, Marey, and lastly by Pond, of our own country, the pulsations at the wrist are registered, and thus made perceptible to the eye.

Fig. 1.



Pond's Sphygmograph.

We herewith give a cut, Fig. 1, of Pond's instrument, and two tracings made by it. The first is a healthy tracing, and the second indicates enlargement, technically called hypertrophy, of the heart.

Pericarditis, or inflammation of the membranous sac which surrounds the heart, may be either acute or chronic. The symptoms in acute pericarditis are made up from co-existing affections, and are frequently associated with articular rheumatism, Bright's disease of the

kidneys, or pleuritis. The intensity of the pain varies in different individuals. The action of the heart is increased, the pulse is quick, and vomiting sometimes takes place. When this disease is developed in the course of rheumatism, it is known as rheumatic pericarditis, and is almost always associated with endocarditis. In some cases acute pericarditis is very distressing, in others it is mild. The fatality is not due so much to the disease itself, as to co-existing affections. When it does not prove fatal, it sometimes becomes chronic.

In chronic pericarditis, pain is seldom present. The heart is generally more or less enlarged, its sounds are feeble, the first being weaker than the second.

Endocarditis, or inflammation of the membrane lining the cavities of the heart, is one of the most frequent forms of heart disease. It is almost invariably associated with acute rheumatism, or some of the eruptive fevers, as small-pox, scarlet fever, etc., and is due to the irritation of the unhealthy blood passing through the heart. The disease is generally attended with little or no pain, and, consequently, if the attending physician be not on the alert, it will escape his observation. When associated with acute rheumatism, the disease is only in rare instances directly fatal, but in the great majority of cases it leaves permanent organic changes, which sooner or later develop into valvular affections, and these may eventually destroy life. When the disease occurs, however, as the result of pyæmia (blood-poisoning produced by the absorption of decomposing pus or "matter") or of diphtheria, or when it is associated with any other septic conditions, it constitutes a very grave element. Collections of matter formed on the membrane lining the heart and covering its valves, are liable to be detached and carried by the circulation to the brain, spleen, or liver, where they plug up some artery, and thus cause death of the parts which it supplies with blood.

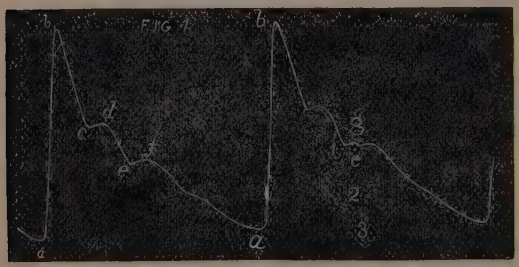
Chronic endocarditis generally occurs in rheumatic subjects, unassociated with any acute disease, It may exist without any marked symptoms, except, perhaps, a sense of oppression and uneasiness in the chest, with palpitation. It produces a thickening and hardening of the membrane lining the heart, and generally causes a retraction, adhesion, and degeneration of some of the valves of the heart, thus bringing on valvular disease.

Valvular Lesions are, as we have seen, very frequently the result of endocarditis. They are of two kinds. First, those which prevent the valves from flapping back close to the walls of the ventricles, or arteries, thus diminishing, to a greater or lesser extent, the size of the valvular orifices, and offering an obstruction to the free flow of blood through them; and which consist of a thickening and retraction, or adhesion of the valves, chalky deposits, morbid growths, etc. Secondly, those which prevent complete closure of the valves, and thus permit a return of the blood into the cavity from which it has just

been expelled. These latter consist of retractions, perforations, and partial detachments of the valves, chalky deposits around the base of the valves and in them, and rupture of the chordæ tendineæ.

These two forms of lesions are usually co-existent, one generally being more extensive than the other. Thus, the regurgitation may be slight, and the obstruction great, or *vice versa*. The symptoms and disturbance of the circulation are altogether dependent upon the location and form of the lesion, or lesions. Each valvular lesion has its characteristic sound, or murmur, which is heard at a particular period in the cycle of the heart's action, and it is, as before stated, from these sounds, from tracings of the pulse, and from the many other indications, that we arrive at a diagnosis. Thus, in obstruction of the orifice at the junction of the aorta with the left ventricle, one of the most frequent of valvular lesions, a murmur, generally harsh in character, is heard with the first sound of the heart, with greatest intensity directly over the normal position or the aortic semi-lunar valves. This is conveyed along the large arteries, and may be heard, less distinctly, over the carotids. In the sphygmographic tracing, the line of ascent is less abrupt than in the normal tracing (Fig. 2), and not nearly so high, and it is rounded at the top. In aortic regurgitation, the line of ascent is similar to that of the healthy tracing, but the line of descent is very sudden. The left side of the heart is almost invariably the primary seat of these affections, but in the latter stages of their course, the right side also is liable to become involved, and, as a consequence, there then exists great disturbance of the venous circulation, with a damming back of the blood in the veins, and passive congestion of the liver, kidneys and brain, followed by dropsy, albumen in the urine, etc.

Fig. 2.



The above is a representation of a tracing of a healthy pulse as made with the Sphygmograph.

Hypertrophy of the Heart consists of a thickening of the muscular walls of this organ. It may be confined to one portion of the heart, or it may affect the entire organ. The affection has been divided into the following three forms: *Simple hypertrophy*, in which there is an increase in the thickness of the walls of the heart, without any augmentation in the capacity of the cavities, and which is usually the result of chronic Bright's disease, or great intemperance; *eccentric hypertrophy*, in which there is an increase in the thickness of the walls of the heart, together

with increase in the capacity of the cavities, and which is generally the result of some valvular lesion; and *concentric hypertrophy*, in which there is an increase in the thickness of the walls of the heart, with a decrease in the capacity of the cavities. Valvular lesions, obstructions in the large arteries, or, in fact, any thing which calls upon the heart to constantly perform an undue amount of labor must, necessarily, produce hypertrophy of its muscular walls, just as the undue amount of labor which the blacksmith's arm is called upon to perform produces hypertrophy of its muscles. With this condition, the pulse is hard and incompressible, and the line of ascent in the sphygmographic tracing (Fig. 3) is higher than in health.

Dilatation of the Heart is a condition which is closely allied to hypertrophy of the heart, and which consists of an increase in the capacity of the cavities of the heart, with diminished contractile power. In simple dilatation, there is an increase in the capacities of the cavities, without any marked change in the walls of the organ. It is usually the result of some disease which has produced great muscular prostration, and which has interfered materially with nutrition. More frequently, however, dilatation is the result of valvular lesions, and is associated with hypertrophy, there being an increase in the thickness of the walls with a diminution of the contractile power. The hypertrophy from valvular lesions goes on increasing until it reaches a certain stage, when dilatation commences, the two conditions then being associated.

Fig. 3.

Atrophy of the heart is the opposite to hypertrophy, and signifies a wasting away of the muscular substance, and a diminution in the thickness of the walls of the heart. Its power is diminished in proportion to the degree of atrophy.

Fatty Degeneration of the heart consists in the deposition of particles of fat within the *sarcolemma* (the sheath which invests the fibrils), which are substituted for the proper muscular tissue. If the fatty degeneration exists to any extent the muscular walls present a yellowish color, and the heart is soft and flabby. This may be confined to one ventricle, or it may affect the inner layer of fibres, the outer layer remaining unchanged. Degeneration of the left ventricle occasions feebleness of the pulse. Difficulty in breathing is one symptom of this disease, especially when the right ventricle is affected. There is pallor, feeble circulation, cold extremities, and frequently dropsy.

Fatty degeneration is more liable to occur in corpulent persons, and between the ages of forty and fifty years.

Angina Pectoris, also termed *neuralgia of the heart*, might be included among the diseases of the nervous system, but as it is usually associated with a derangement in the action of the heart, it may be properly considered in this connection. The pain varies in intensity, sometimes being very acute, at others assuming a milder form. The action of the heart is more or less disturbed. The beats are irregular, at times being strong, while again they are feeble. A feeling of numbness is experienced in those parts to which the pain penetrates. These paroxysms *usually* continue but a few minutes, although they sometimes last several hours. Persons suffering from angina pectoris are liable to sudden death. It is connected with ossification, or other organic changes of the heart. Usually these paroxysms, if the life of the patient continues, become more and more frequent. The danger is not to be measured by the intensity of the pain, but by the co-existing organic disease. Although it is not absolutely certain that organic disease is present in all cases of angina pectoris, yet the exceptions are so rare that when the signs of organic disease cannot be detected, it may be inferred that angina is not the real affection, or that the existing lesions escape observation. Those who suffer from this disease are, in the great majority of cases, of the male sex, and rarely under the age of forty.

Treatment. In the foregoing consideration of organic diseases of the heart, we have omitted to speak of their remedial management, for the obvious reason that unprofessional readers are unable to correctly distinguish between the various diseases of this vital organ; and it would, therefore, be useless for us to attempt to instruct them as to the medicinal treatment of the different cardiac affections.

In the vast majority of instances, diseases of the heart are not necessarily speedily fatal. Persons have been known to live twenty years or more with very extensive organic disease of this organ.

It is *very important*, however, that a correct diagnosis be made in the early stages of these diseases, in order that an appropriate course of hygiene and treatment may be adopted, which will check their progress. While we cannot cure extensive organic diseases of the heart, we *can* check their progress, and prolong life, and render the condition of the subject comparatively comfortable. Since we are able to diagnosticate with the utmost precision the various affections of the heart, and since the discovery of certain specific medicines which exert most beneficial effects, we are enabled to treat this class of maladies with the most gratifying results. Thus we have seen a case in a very advanced stage of the disease, with the breathing so difficult that the subject had been compelled to remain almost constantly in the sitting posture, in the greatest agony, for so long a time that immense bed sores had formed on the seat; in which the dropsy had become so extensive that

the skin of the legs had burst open; and yet this patient, through the influence of a specific course of treatment, was speedily relieved, and enabled to live in a comparatively comfortable condition for many months.

One afflicted with heart disease should abstain from the use of all kinds of stimulants, tobacco, and whatever tends to lower vitality. His life should be an even one, free from all excitement of any kind whatsoever. He should avoid severe physical exertion, and everything which causes the heart to beat with undue frequency.

There are certain symptoms, the result of *chlorosis* (the green sickness), a deficiency of blood, dyspepsia, uterine disease, and certain nervous affections, which may simulate those of real organic disease, but the physician of education and experience, with a trained ear, is able to detect the difference speedily.

SORE MOUTH. (Stomatitis.)

Stomatitis, or inflammation of the mucous membrane of the mouth, may include the entire surface of the gums, tongue, and cheeks, or appear only in spots. Vesicles are formed, having swollen edges and a white or yellow center, which finally ulcerate. When mild, the affection is confined to these parts.

If the inflammation is acute, the mouth is dry and parched, or as is more frequently the case, the flow of saliva is abundant and acrid, and, when swallowed, irritates the stomach and bowels, producing fever, diarrhea, griping pains, and flatulency. The tongue is either coated white or red, and is glossy, and the sense of taste is considerably impaired. Digestion and nutrition are then disturbed, and the patient becomes rapidly emaciated.

Thrush, or Canker, is that form of stomatitis in which white ulcers locate on the inner side of the upper lip, the tongue, or roof of the mouth; the irritation which they cause not only interferes with eating, but produces fever, together with the symptoms previously mentioned.

Aphthæ, or follicular inflammation, is distinguished by very painful little ulcers, single or in clusters, scattered over the surface of the tongue and lining of the mouth. Sometimes it is complicated with little lumps in the tongue. These form ulcers and denote scrofulous inflammation. Fissures and cracks in the tongue indicate derangement of the stomach.

The Causes of stomatitis, in nursing infants, are unhealthy milk, or effete matter, which, for lack of proper care and cleanliness, accumulates upon the nipple. In older children, improper diet, irritants, debility of the digestive functions, or hereditary syphilitic taint, disorder the blood and induce local inflammation.

Treatment. Locally, use a wash of golden seal or gold thread sweetened with maple-sugar, and rendered slightly alkaline with borax or saleratus. Also use a very weak, alkaline tea, or one of slippery-

elm flour, to obviate the acridity of the secretions. If the sores do not heal, constitutional treatment may be required, as the use of the Golden Medical Discovery. The family physician should be consulted if the sore mouth resists all these remedial measures.

NURSING SORE MOUTH. (Stomatitis Materna.)

During the period of nursing, and sometimes in the latter months of pregnancy, women are liable to a peculiar variety of sore mouth. The soreness is sometimes so great that, although the appetite may be ravenous, the patient cannot eat. When this condition extends to the stomach and bowels, symptoms of a very grave character appear, and the disease, by interfering with the process of nutrition, causes emaciation and debility, and in extreme cases, death. It is a strange affection, nearly always disappearing upon weaning the child, though this course is not absolutely necessary. It appears to depend upon a hepatic, or gastric derangement, in connection with a vitiated condition of the blood, but how this is brought about is unknown.

Symptoms. The disease sometimes comes on suddenly, at others more slowly. The fact that the woman is either pregnant or nursing, is of importance in forming a diagnosis. At first there is a severe, scalding sensation of the tongue, mouth, and fauces, with pain, which is sometimes intense. The color of the tongue is often pink, or a light red, while the mouth is generally of a deeper hue. This stinging, biting sensation is accompained by a profuse, watery discharge from the mouth, which seems extremely hot and acrid, causing excoriation whenever it comes in contract with the face or chin. The appetite is good, sometimes ravenous, but food or drinks, except of the blandest character, occasion such intense pain that the patient avoids their use. Ulceration occurs after a little time. The bowels are generally constipated, but when the disease extends to the stomach or intestines, diarrhea occurs. There is generally anæmia, debility, and impairment of the vital powers.

Treatment. The indications for treatment in this affection are to overcome the vitiated condition of the blood, and to sustain the vital powers. The remedies for this purpose are alteratives, antiseptics, and tonics. Give the Golden Medical Discovery, the value of which may be greatly enhanced by adding one-half ounce of the fluid extract of baptisia to each bottle, in doses of a teaspoonful four times a day. Chlorate of potash, half an ounce in a pint of water, used as a wash and gargle, is of great value. A teaspoonful of the same may be swollowed several times a day. This will not interfere with other medicines. As a tonic, the tincture of the muriate of iron, in five to ten-drop doses, diluted with water, may be taken three or four times daily. Quinine, in one or two-grain doses, should be given with the iron if the debility be extreme. When there is great acidity of the stomach, which may be known by heart-burn, saleratus may be taken in water, to neutralize it,

but should not be drunk within an hour of the time for taking other medicines. If constipation exists, use the Pleasant Pellets. This course of treatment, thoroughly carried out, will seldom fail to effect a perfect cure, without weaning the child, yet this latter course may sometimes become advisable to promote the recovery of the patient. Should the treatment advised not produce the desired result, a skillful physician's services should be secured, as he may, in individual cases, distinguish other important indications which may enable him to modify the treatment to advantage.

DIARRHEA, CHOLERA INFANTUM, OR SUMMER COMPLAINT, AND DYSENTERY.

These diseases are usually considered separately by medical writers, but, as they are closely related, a simple diarrhea not unfrequently running into a *cholera infantum* or a dysentery, we shall consider them together.

Diarrhea is an affection characterized by unnaturally frequent evacuations from the bowels of a liquid of morbidly soft consistency. It may be simple or inflammatory, and acute or chronic.

A diarrhea is said to be bilious when the discharges are composed principally of serum, highly colored with yellow or green bile; catarrhal, when they are of a semi-transparent, mucous character; serous, when the dejections are thin and watery, sometimes mixed with blood, bile, or ingesta.

The symptoms of the affection are usually at first those of indigestion, a fullness of the stomach, flatulency, and colicky pains. The pains, which precede each evacuation, are intermittent in character. There may be an unpleasant sinking sensation in the abdomen, and, with the discharge, exhaustion, a feeble pulse, and a cool skin. In the inflammatory variety, there is more or less fever.

Cholera Infantum, or summer complaint, is a disease peculiar to the warm season, and more prevalent in cities, and among those children who do not nurse at the breast. It is characterized by great irritability of the stomach, and persistent vomiting and purging, the discharges from the bowels being copious and watery, and sometimes containing specks of curd, yellowish-green matter, and mucus. The limbs of the little sufferer are usually drawn up, indicating pain in the bowels, and there is great prostration with cold extremities. The invasion may be so sudden, and the disease so violent as to destroy life in a few hours.

Dysentery, also known as *bloody-flux*, consists of an inflammation of the mucous membrane of the large intestine, with ulceration of the affected surfaces. The disease is accompanied with much nervous prostration, and is distinguished by severe pains in the abdomen of a griping nature, followed by frequent scanty and bloody stools, and

much straining. Occasionally the attack is ushered in with a chill and aching pains in various parts of the body, with copious fecal dejections. In other cases the attack is preceded by loss of appetite, a sense of uneasiness with dull pains in the abdomen, and weariness. The disease, like diarrhea, may be either acute or chronic.

The Causes of these affections of the bowels are many and varied. They may be brought on by exposure to cold and wet, or by improper and indigestible articles of food, such as unripe fruits, salads, pastries, and, in fact, anything which interferes with the normal operations of the digestive apparatus. One of the most fertile sources of diarrhea in infants, and of *cholera infantum*, is the administration of unsuitable food, the ill effects of which are greatly increased by exposure to heat or cold. Uncleanliness, and the inhalation of impure air, are prolific causes of these diseases. Epidemics have been supposed to be due to some peculiarity in the condition of the atmosphere, or to some impalpable germ of a vegetable or animal nature.

Treatment. In the treatment of these diseases, one should first endeavor to ascertain the cause of the trouble, and then, if possible, effect its removal. Attention should be given to the hygienic surroundings of the individual afflicted; if he reside in a miasmatic district, or in a location in which the atmosphere is contaminated by the decomposition of animal or vegetable matter, or filled with noxious gases, his abode should be changed. A pure, dry air is most beneficial in these cases.

Only the least irritating and most easily digestible articles of food should be taken. Healthy cow's milk is slightly alkaline, but that of cows fed on slops is usually acid, and unfit for infants. It is, therefore, well to test all milk with blue litmus paper before feeding it to young children. If found to be strongly acid, that is if it turns the paper red, it should be rejected, but if only slightly so, sufficient lime water may be added to render it slightly alkaline. For adults and older children, the diet should consist of such starchy foods as arrow-root, sago, corn starch, and rice, and of ripe grapes, freed from the skins and seeds, peaches, and boiled milk, or milk and lime water. In some cases the animal broths are beneficial, especially mutton broth. To quench the thirst, crust coffee, rice coffee, and lemonade, in small quantities, may be taken.

Rest is important in these diseases. In severe cases, the patient should be kept in bed.

At the onset of an attack of diarrhea or dysentery, if there be reason to believe that the intestinal tract contains irritating matter, a dose of castor oil, with a few drops of anise oil added to render it palatable, should be administered. After all irritating ingesta have been removed, Dr. Pierce's Compound Extract of Smart-weed should be given in doses proportionate to the age of the patient, and the severity of the case. Being composed of the extract of smart-weed, or water pepper,

Jamaica ginger, camphor, and genuine French grape brandy, it exerts a most wonderful effect not only in those diseases but in cholera morbus and intestinal colic. It allays the irritation and inflammation of the affected mucous surfaces, and soothes the nervous system. In the great majority of cases, the above course of treatment will be found sufficient, but in the more severe forms of these diseases additional remedies may be required.

In dysentery, accompanied with severe pain and straining, injections of starch water and laudanum, from two to four ounces of the former to from twenty to fifty drops of the latter should be used.

Hot fomentations applied to the abdomen are beneficial. If the discharges contain much blood, a flannel cloth moistened with the spirits of turpentine should be laid over the lower part of the abdomen, and kept there until slight irritation is produced.

Lime water, bicarbonate of soda, bicarbonate of potash (saleratus), chalk, and the subnitrate of bismuth are valuable agents to correct the secretions, and allay irritation of the diseased mucous surface. The above-named preparations of soda, potash, and bismuth may be taken in doses of from five to twenty grains every few hours.

Blackberry root and cranesbill (*Geranium Maculatum*), in the form of fluid extract or infusion, are beneficial in acute cases in which the discharges are profuse and watery, and in the chronic forms of these affections.

In *cholera infantum* subnitrate of bismuth should be given in doses of from five to ten grains at intervals of from two to four hours. If the discharges are very profuse, the fluid extract of cranesbill may be administered in from two to ten-drop doses alternately with the bismuth. The camphorated tincture of opium (paregoric) is required in doses of from two to twenty drops, depending upon the age of the child and the severity of the case, if there is much pain, but great caution should be exercised in administering the preparations of opium to children. A single drop of laudanum given to a young infant has caused convulsions, coma, and death in more than one instance. To check the vomiting of *cholera infantum*, mild irritation over the stomach is sometimes effectual. For this purpose a weak mustard plaster, or a cloth moistened with turpentine, may be laid over the stomach for a few minutes at a time. If the child is old enough to suck pellets of ice, these are beneficial, or a piece can be wrapped in a cloth and sucked.

COLIC.

Colic is a term applied to griping pains in the abdomen, which are sometimes accompanied with nausea and vomiting. The derangement is recognized in several forms, some of which we shall briefly describe.

Bilious Colic. This may be the result of a morbid condition of the liver.

Symptoms. It is characterized by severe pain occurring in paroxy-

sms, which may be relieved by pressure upon the bowels. The pulse is quick, the tongue coated, and the skin harsh and dry; there is headache, impaired appetite, acrid taste in the mouth, thirst, nausea, attended with vomiting and general chilliness, followed by febrile symptoms.

Cause. It may be induced by exposure to cold, in consequence of which the circulation is impeded, the pores of the skin obstructed, and all of the vitiated matters having to be expelled through the liver, stomach, and intestines. It may also be due to malaria in the atmosphere. It most commonly occurs during the autumn, after a season of hot weather.

Flatulent Colic. Flatulent or "wind" colic is one of the results of indigestion.

Symptoms. A sense of fullness in the pit of the stomach, attended with pain, which is transferred from one part of the bowels to another. There is fever, a quick pulse, nausea, and the presence of gas; by the latter feature it may be detected from the other forms.

Causes. Cold or atmospheric changes, the eating of unripe fruits, uncooked vegetables and those articles of diet which ferment easily, are the principle causes.

Painter's Colic. This form is also known by various names, such as *colica pictonum*, *saturnine*, or *lead colic*. Those persons who are engaged in the manufacture of lead, and painters, are the most frequent victims of this affection.

Symptoms. Impaired appetite, fetid breath, thickly coated tongue, obstinate constipation, a dry skin, scanty urine, languor, severe pain in the umbilical region, and general derangement of the functions of the system.

Causes. From the term applied to this form, the cause may be inferred. It is induced by the absorption of lead through the lungs, stomach, and skin.

Treatment. The indication to be fulfilled in *bilious* colic is to relieve the intestinal spasm. This may be done by drinking freely of a decoction of yam-root, or *dioscorea villosa*, which is an effectual remedy in this affection. If this be not at hand, the spasm may be relieved by administering freely of Dr. Pierce's Extract of Smart-Weed. If the stomach be irritable, a tablespoonful of laudanum and one of tincture of lobelia, in four ounces of starch water, administered as an injection, is effectual. If simple means do not promptly arrest the attack, no time should be lost in summoning the family physician.

In *flatulent* colic, the treatment should depend upon the cause. If it be occasioned by cold, a teaspoonful or two of the Extract of Smartweed, in warm water or catnip tea, repeated a few times, will be sufficient. If it result from overloading the stomach, a dose of the Pleasant Pellets will answer the purpose. If the pain in the abdomen is severe, apply hot fomentations. Assist the action of physic, by giving an in-

jection of senna and catnip tea, or if the stomach is very sour, take internally some mild alkali, such as common saleratus.

In *painters'* colic, the following cathartic mixture is an effectual remedy: sulphate of magnesia (epsom salts), twelve ounces; nitrate of potassa (saltpeter), half an ounce; sulphuric acid, one drachm; boiling water, one quart. Of this remedy give a teaspoonful every thirty minutes or every hour, until the bowels move. An injection of some diaphoretic tea, or of alum water, is a good remedy. Castor oil and molasses, containing a teaspoonful of spirits of turpentine, will add to the efficiency of an injection. If the colic be not promptly relieved, a physician should be employed. To eliminate the lead from the system, and thus prevent a return of the colic, or other injurious effects, two drachms of iodide of potassium should be added to a bottle of the Golden Medical Discovery, and a teaspoonful of this taken four times a day.

JAUNDICE. (Icterus.)

This affection is generally regarded as a symptom of disordered liver, since it frequently occurs during the progress of diseases of that organ. When the disease inparts a greenish tinge to the skin, it is termed *green jaundice*, and, when it imparts a blackish color, it is known as *black jaundice*. Jaundice is undoubtedly due to the presence of biliary elements in the blood.

Causes. In consequence of the varied conditions from which it arises, Professor Da Costa has aptly remarked: "With the *recognition* of jaundice, the difficulty in diagnosis may be said to begin." He considers the causes of jaundice to be (1) diseases of the liver; (2) disease or the bile ducts; (3) diseases remote from the liver, or general disease leading to a disorder of that viscus; (4) certain causes acting upon the blood.

Symptoms. It is characterized by a yellowish color of the skin and of the white of the eyes. The skin is usually dry and harsh; if it be moist, the linen will be tinged yellow from the perspiration. The tongue is coated yellow, the mouth is dry, and the appetite impaired; there is headache, nausea, and sometimes vomiting; there is pain in the abdomen after eating, and in the region of the liver, and it is also felt in the right shoulder, and between the shoulder-blades. In severe cases, there is fever, accompanied with chills, despondency and loss of flesh. The stools are generally of a light clay color, and very offensive; the urine is thick and yellow. When the disease terminates fatally, there is delirium followed by stupor,

Treatment. The first step should be to eliminate from the system, as speedily as possible, all noxious materials. For this purpose, the spirit-vapor bath should be used. If the urine is scanty or voided with difficulty, take acetate of potash or queen of the meadow. These may

be taken in connection with the Golden Medical Discovery and Purgative Pellets, the efficacy of which has already been described in the treatment of chronic inflammation of the liver. They are indeed valuable agents in this disease, since they increase the action of all the excretory glands. and rapidly remove those matters, which, if retained, would poison the system.

In some cases, acids are of great value; good hard cider or hydrochloric acid and the acid bath are frequently valuable agents.

In other cases the employment, both internally and externally, of alkalies in addition to the Golden Medical Discovery answers the purpose much better.

Again, there are persons who, in addition to alteratives and baths, require tonics. In the treatment or this affection, whatever may be the nature of the case, the use of *alteratives* must not be forgotten, for *without* them, the auxiliary treatment with acids, alkalies, and tonics, will not produce the desired effect.

The employment of drastic remedies is sometimes resorted to; but, although they may give temporary relief, the patient soon relapses into his former condition, while if the treatment above given be adopted, the recovery will be permanent.

GALL-STONES. (Biliary Calculi.)

These are concretions found in the gall-bladder or bile duct, and vary from the size of a pea to that of a hen's egg. There may be no indication of their existence in the gall-bladder until they begin to pass through the duct.

Causes. The formation of gall-stones is undoubtedly due to an unhealthy condition of the bile. Corpulent persons, and those iudulging in over-stimulating diet, or in the habitual use of fermented drinks, are most liable to be troubled by them.

Symptoms. The patient is suddenly seized with excruciating pain in the right side. After a time it subsides, but is again renewed with as great severity as before. There is nausea, with vomiting, which is often excessive and severe. The pulse is sometimes slower than is natural, the extremities are cold, there is great exhaustion, together with perspiration and spasmodic contraction of the abdominal muscles. As soon as one stone has passed through the duct into the intestine, immediate relief is experienced until another commences to pass, and the larger the concretion, the greater is the pain. If the stools be washed, the gall-stones may be seen floating on top of the water.

Treatment. This consists chiefly in relieving the patient of pain and vomiting during the passage of the gall-stones. Hot fomentations made with stramonium leaves and lobelia, and applied over the painful parts, are beneficial. Small doses of lobelia may be taken, but not in sufficient quantities to produce vomiting. Doses of opium should also

be taken; this anodyne must, however, be used with care. Gelseminum is often useful. Chloroform, ether, or the spirit vapor-bath generally allays the pain. Carbonate of soda, dissolved in water, often relieves the vomiting.

These distressing symptoms are apt to recur until the removal of all the gall-stones is effected. To aid in removing them, take the Golden Medical Discovery rather freely for a day or two, and continue its use with lobelia, in doses sufficiently large to produce nausea, but not vomiting. From four to eight ounces of sweet oil may be given, and, if the bowels do not respond within three hours, repeat the dose, and the gall-stones will generally be evacuated. To prevent the formation of these concretions take the Golden Medical Discovery, together with alkaline drinks made with carbonate of soda. Tone and energy will thereby be imparted to the liver, the free flow of bile will be insured and the subsequent formation of gall-stones prevented.

INTESTINAL WORMS.

We have not the space to discuss the numerous theories which have been offered to account for the presence of these parasites in the human body. We shall enumerate the principal species, describe the symptoms indicating their presence, and indicate the proper remedies.

There are five species of intestinal worms, sufficiently common to merit a description.

(1.) The round worm, termed by naturalists, *ascaris lumbricoides*, varies from six inches to a foot in length, and resembles the common earth-worm. It infests the small intestines, and seldom migrates into the stomach or large bowel. Instances are recorded, however, in which it has crept upward in the esophagus, larynx, nostrils, and eustachian tube; but their presence in these parts is of comparatively rare occurrence, and is generally caused by some local irritation which compels their migration. The fact that they have been found in the peritoneal sac, gave rise to the opinion that they perforate the intestine; but careful observations have proved that they can only escape through openings made by ulcers.

This species has been found in adults, but is more common in children from three to twelve years of age. The number of this species existing in a human body is variable. Sometimes only two or three are found. At other times a hundred, and even twice that number, are voided in a few days.

(2.) The *ascaris vermicularis*, thread, pin, or seat-worm, is round, very slender, and about half an inch in length. The habitation of this species is the rectum, and they are often found matted together in the excrement. They are very active, even after ejection, and have been known to cause great local irritation by entering the vagina and urethra. Their presence is an occasional cause of masturbation. It

is impossible to estimate the number of these parasites that may exist in the human rectum. Great numbers, sometimes, are voided at a single evacuation.

(3.) The *tricocephalus dispar* is a third variety of the round worm, and is said to infest the bodies of almost every species of mammalia. As its name indicates, the upper portion of its body is slender, hair-like, and terminates at the lower extremity in a thick, spiral portion. It is from one to two inches in length, and is found attached by its head to the mucous membrane of the cæcum, and, in rare instances, in the colon and small intestine. They are rarely numerous.

Tæniæ or *tape-worms*, are hermaphrodites, of a flat, ribbon-like form, and are composed of numerous segments, each of which is provided with a complete set of generative organs, and contains ova for the production of thousands of individuals. Some authors have supposed that each segment, or joint, is a distinct individual, but the existence of one head for the whole precludes this theory. There are two species of *tæniæ* developed in the human intestine; the *tænia solium* and the *tænia lata.*

(4.) The *tænia solium* is the species commonly found in America and all the countries of Europe, except France, Russia, and Switzerland. In France, both species are found, but the tænia lata seems to be indigenous to Russia and Switzerland.

The *tænia solium* varies in length from four or five to thirty, thirty-five, or even forty feet. The head is hemispherical and armed with a double row of twenty or thirty hooklets. The genital organs are alternate and placed upon the outer edges of each segment. It inhabits the small intestine, and is usually solitary.

(5.) The *tænia lata*, or broad tape-worm, is distinguished by the greater breadth of its segments, and the location of the genital organs, which are found in the centre of each segment. Its small elongated head is unarmed, and has a longitudinal fissure on each side. It usually attains a greater length than the *tænia solium.*

Symptoms. The symptoms which the long worms occasion, are frequently somewhat obscure. Thirst, irregular appetite, colicky pains, excessive flow of saliva, enlargement of the abdomen, itching of the nose, pallor of the face, offensive breath, disturbed sleep, and grinding of the teeth, all are common symptoms. Occasionally, convulsions and other nervous affections are produced by the presence of the *ascaris lumbricoides*, but generally they produce less constitutional disturbance than the other varieties. The passage of this species of worms from the bowels, or their ejection from the stomach, is the only positive evidence of their presence. The *ascaris vermicularis*, thread, pin, or seat-worm, gives rise to most of the symptoms produced by the long worms, but in addition produces intense itching at the anus, and, not unfrequently, an eruption upon that part. The itching is particularly distressing at night. When the little sufferer is well covered, the

warmth occasioned by the bedclothes causes these little parasites to crawl out upon the anus, and produces such paroxysms of itching and pain as to cause the child to kick the covering off and lie naked. The persistent manifestations of a disposition to lie naked, should excite the parents' suspicions of seat-worms, and lead them to investigate all the symptoms. By examining the child's stools the worms may be found adhering to the feces, and they may also be seen on the anus. Thousands of children suffer untold agony from these little seat-worms, which are left unmolested to torment them, because the parents are unfamiliar with the meaning of the symptoms manifested, and therefore pay no heed to them. We have been thus particular in describing the symptoms indicating the presence of these pestiferous parasites, in order that they may be readily detected.

The Symptoms produced by the tape-worm are dizziness, ringing in the ears, increased secretion of saliva, indigestion, ravenous appetite, sharp abdominal pains, and emaciation. The only positive sign of the presence of these parasites, is the passage of pieces of them in the feces. The nervous and other symptoms produced by the ordinary long worms are also caused by the tape-worm.

Causes. Careful observations have proved that there are certain causes which favor the generation or development of intestinal worms. Among others, we may mention fatty or farinaceous articles of food, gormandizing, constant exposure to a moist atmosphere, and sedentary habits.

It is now generally conceded that the development of tape-worms is due to the swallowing of an egg or germ-cell, which is contained in many kinds of animal food, and which the process of cooking has failed to destroy. People living near low marshes, lakes, or the seacoast, are liable to *tæniæ*.

Treatment. The expulsion of the *ascaris lumbricoides* may be very easily and pleasantly effected. Santonin is an effectual remedy for this variety of worms. For a child three years old, take santonin, six grains; podophyllin, one grain; white sugar, thirty grains; mix, triturate, and divide into twelve powders, and give one every three or four hours, until they act upon the bowels; or take santonin, ten grains; white sugar, twenty grains; mix, triturate, and divide into ten powders, and give one every night at bedtime. and after giving two or three in this way, administer a mild cathartic. As santonin is almost entirely tasteless, if not combined with other medicines which are unpalatable, no difficulty will be experienced in administering it to children. By reference to the article on anthelmintics in this volume, other valuable vermifuges may be selected, and directions found for their employment.

In the removal of thread or pin-worms, anthelmintic medicines taken into the stomach are of little or no value. An injection of a strong solution of salt, is a very efficient remedy. A teaspoonful of turpentine in half a pint of milk makes a good injection. Strong coffee has been

recommended as an injection. The anus should be well anointed with vaseline, lard, oil, or fresh butter, after each movement of the bowels. Whatever injection or remedy is used, it should be followed by the application of some ointment to the anus, otherwise they will continue to deposit their eggs about that orifice and multiply there.

Various remedies have been used to destroy tape-worms. Among others we may mention the old and time-honored remedy, which consists of two or three ounces of the oil of turpentine, taken in castor oil or some aromatic tincture.

A decoction made by boiling two or three ounces of freshly powdered pomegranate bark in a pint of water was used by the ancients, and is now highly recommended as a remedy.

Some American physicians have used an emulsion of pumpkin seeds with marked success.

Twenty or thirty grains of the extract of male fern, followed by a cathartic is highly recommended for the destruction and removal of tæniæ.

TRICHINA SPIRALIS.

In 1835, Owen discovered a peculiar parasite, which sometimes infests the human body, and is termed the *trichina spiralis*. The presence of these parasites has given rise to morbid conditions of the system, followed by the most serious results. They are developed in the alimentary canal, and then perforate its tissues and enter the muscles. Twelve trichinæ have been found in a section of human muscle only one-twelfth of an inch square and one-fifth of an inch in thickness.

The early symptoms of trichinæ are very uncertain, being the same as those of some other disease. The patient complains of severe pain in the abdomen and is troubled with diarrhea. When the trichinæ pass into the muscles, they occasion great suffering. There are sharp pains in the muscles, the perspiration is profuse, and the patient becomes exhausted.

Cause. Nearly every case of trichinæ, which has been brought to the notice of the profession, has been attributed to the eating of raw or improperly cooked pork. The parasites can only be detected with a microscope.

Treatment. The impossibility of removing the trichinæ after they have passed into the muscles is apparent; and, as yet, no special remedy has been recomended to remove them from the alimentary canal. The only safety lies in prevention. Hence raw or imperfectly cooked pork should never be eaten.

DYSPEPSIA.

It is generally conceded that a multitude of human ailments arise from *indigestion*, and in its various forms it taxes the skill of the physician to prescribe the proper remedies. It is undeniable that the closest intimacy exists between happiness and good digestion. A healthy digestion aids materially in making a cheerful disposition, and the "feast of reason and flow of soul" is due as much to the functional integrity of the stomach as to a strong and generous mental organization.

Dr. Johnson severely said: "*Every man is a rascal as soon as he is sick.*" We all know that a morbid condition irritates the individual and excites sarcastic and disagreeable remarks. And, likewise, an irritable temper and, suddenly aroused passions may not only turn and disturb the stomach, but even poison the secretions. Anxiety, excitability, fear, and irritability frequently cause the perversion of physiological processes.

The slightest functional disturbance of the stomach deranges, more or less, all the succeeding operations of digestion and tends to the vitiation and impairment of the delicate processes of nutrition. Dyspepsia may commence and proceed so insidiously as not to excite the suspicion of friends, although the patient generally desires active treatment, such as cathartics, emetics, and medicines to act upon the liver. When the disease becomes confirmed, it presents some of the following symptoms: Weight, uneasiness, and fullness in the region of the stomach, attended by impatience, irritability, sluggishness, anxiety, and melancholy; there is impairment of the appetite and taste, also sourness, flatulency, and, perhaps, frequent attacks of colic, loss of hope, courage, and energy; apathy, drowsiness, and frightful dreams are also symptoms common in the different stages of this disease. There are, furthermore, the accompanying symptoms of a coated tongue, bitter taste in the mouth, unpleasant eructations, scalding of the throat from regurgitation, offensive breath. sick headache, giddiness, disturbed sleep, sallow countenance, heart-burn, morbid craving after food, constant anxiety and apprehension, fancied impotency, and fickleness. The subjects of dyspepsia frequently imagine that they require medicines to act upon the liver, desire active treatment, are endlessly experimenting in diet, daily rehearse their symptoms, and are morbidly sensitive.

Causes. Overtasking the body or mind, overloading the stomach, the use of improper food, such as stale vegetables and meat, unripe fruits, indigestible articles, improperly prepared food, irregular meals, disorderly habits, the use of alcoholic stimulants, loss of sleep, masturbation, irritability of temper, anxiety, or grief may all give rise to indi-

gestion. If the functions performed by the skin are embarrassed by cold, tight clothing, or lack of cleanliness, the nutritive changes cannot properly take place throughout the body, and consequently the digestive functions are embarrassed, as the revolutions of a water-wheel are impeded by the backset of the water. When food is not thoroughly masticated, it is not properly mixed with saliva of the glands of the mouth, and is not prepared for digestion by the acids of the stomach.

Whatever diminishes the general strength, impairs the health, or encroaches upon the functions of life, also hinders the perfect solution of food and disturbs in a measure the function of digestion. Whatever diminishes the normal amount of the digestive secretions or perverts their quality, deteriorating their solvent properties, is a cause of dyspepsia. This should be borne in mind in selecting remedies.

Treatment. The hygienic treatment consists in the regulation of the daily habits, proper selection and preparation of the food, cultivation of cheerfulness, diversion of the mind, and cleanliness of person. We cannot give particular directions as to the kind of diet, as there are no established rules for guidance. Generally, a dyspeptic knows best, from experience, what articles of diet can be taken with the least injury. The directions applicable to the condition of one patient, are not suited to those of another. In dyspepsia, animal food is, as a rule, preferable. Foods rich in starchy matter often ferment and produce distress. Sometimes alkalies may be given with beneficial effect, when there seems to be an excess of acid in the gastric secretions.

In some cases, the digestive fluids are weak and fermentation results, giving rise to flatulency and belching. An antiseptic, which may be prepared by mixing a teaspoonful of hydrochloric acid with four ounces of water, of which a teaspoonful may be taken after each meal, will prove beneficial to check the fermentation and aid digestion. The addition of one or two drops of a mixture of one part of carbolic acid and six of glycerine, to the above solution of hydrochloric acid improves its antiseptic properties. Or, Dr. Pierce's Golden Medical Discovery will stop undue fermentation, and from its tonic and invigorating effect upon the lining membranes of the stomach will generally overcome the indigestion. Some people are afraid to take it, when suffering from indigestion, because it has a sweet taste. But the sweet is not saccharine, or sugar sweet, but an entirely different sweet principle which prevents fermentation instead of promoting it.

Acidity of the stomach and the attendant irritation may be allayed by the following mixture: Calcined magnesia, one drachm; refined sugar, one drachm; subnitrate of bismuth, one-half drachm; oil of cajeput, ten drops. The dose is half a teaspoonful an hour after every meal. Any dispensing druggist can put it up.

It is frequently difficult to prevent the patient from over-distending the stomach, and thus impairing the tone of the muscular coats and prolonging the process of digestion.

In consequence of debility, over-exertion, anxiety, or chronic inflammation of the stomach, there is not a proper secretion, in quantity or quality, of digestive solvents, and it matters not whether it be a deficiency of the fluids of the stomach, or of the intestines, or of the pancreas and liver, the result is indigestion. The question of what important agent is lacking, naturally presents itself to the physician. Is it *pepsin*, the active principle of the gastric juice, which converts proteids into peptone, that is wanting, or is there a deficiency of *pancreatin?* Of course the principle which is lacking should be supplied; but has the physician the remedial agents properly prepared, and ready for prescribing? The specialist, having more cases of dyspepsia to treat than the general practitioner, is more likely to have the latest and most approved remedies applicable to loss of appetite, indigestion, impoverished blood, imperfect assimilation, and all diseases arising from faulty nutrition. In ordinary practice, the physician's time is divided in his consideration of acute, chronic, surgical, and obstetrical cases; in fact, much of it is occupied in riding to reach his patients. His attention is continually diverted from one class of cases to another, effectually preventing investigation in any particular direction. His patronage does not warrant him in the outlay of time required for the investigation of particular diseases, and the expense necessary to obtain the latest and best remedial agents for their treatment. In the multiplicity of his cares and arduous duties by night and by day, obstinate chronic cases become an annoyance to him, and whenever he can be otherwise professionally employed, he avoids them, disliking to undertake their treatment.

With plenty of time for scientific investigation, ample facilities to meet the demands upon his skill, and each succeeding case presenting some new phase, the treatment becomes a matter of absorbing interest to the specialist, and each success inspires greater confidence. We not only use in the treatment of indigestion, solvent remedies, like pepsin, which act only upon proteids, but also other remedies of recent discovery, which exert a remarkable curative influence in diseases of the digestive organs.

The chemistry of digestion and of life is becoming better understood. Any of the free acids may serve to dissolve a precipitated phosphate; but it is only the investigating therapeutist and experienced practitioner who understands which of them is the *most* and which is the *least* efficacious. Alkalies may dissolve lithic deposits, but who, unless he be an experienced physician, can detect the fault of nutrition which leads to their formation, or rightly interpret the symptoms indicating it? These simple illustrations of the complications which attend dyspepsia, are mentioned merely to show that they must be anticipated and taken into account in the treatment.

The number of cases of dyspeptic invalids treated by the staff of the Invalids' Hotel and Surgical Institute within the past few years, is so large as scarcely to be credited by those unacquainted with the preva-

lence of this disease. For this resason we have taken unusual pains to investigate the causes of the disease, and have spared no expense to provide the most approved digestive solvents, and stomachic tonics, which invigorate the mucous membrane of the stomach, and materially assist in reducing the food to a liquid condition. Some of these, without being purgative, increase the activity of the liver, and stimulate the intestinal secretions, two very important indications which should be fulfilled by remedies which cause no real depression. The recent important discoveries made in obtaining the active principles from indigenous plants, has opened the way to the use of a few of the most important of these remedial agents, hitherto almost wholly unknown to the medical profession, and the encouraging results attending our practice have amply repaid us for the investigation and originality in our treatment of this affection.

A careful chemical and microscopical examination of the urine often discloses the actual morbid conditions which perpetuate this functional disease.

CHRONIC DIARRHEA.

On account of the frequency and importance of chronic diarrhea, we deem it worthy of special consideration. It is frequently the sequel of the acute form of the affection. The urgent and severe symptoms of acute diarrhea are often abated, but the disease is not completely cured. The bowels are left in an irritable condition, perhaps in a state of chronic ulceration, which perpetuates morbid discharges.

The most noticeable symptom is the tendency to frequent and unhealthy discharges from the intestines. The evacuated matter varies much in appearance and character in different cases. The precise location of the morbid conditions which give rise to the discharges, as well as to their extent, modifies the color, consistency, and ingredients of the stools. Most frequently they are dark colored and of very offensive odor. They are of a more liquid character than is natural, except when, as is sometimes the case, periods of constipation alternate with periods of unnatural looseness. Tormina, or griping, is usually present, but not so severe as in the acute affection. Tenesmus, or straining, often accompanies it. The appetite is impaired, there is general debility, and the patient is nervous and irritable. The complexion becomes sallow, the skin dry and rough, the tongue dark colored, and the body emaciated.

The affection may be the sequal of neglected or badly treated acute diarrhea, may arise from the injudicious use of powerful purgative medicines, may result from dissipation, unwholesome food, bad air, absence of light, long continued exposure to dampness and cold, overwork, and extreme mental anxiety. Sometimes it is associated with other diseases, such as Bright's disease of the kidneys, scurvy, or some of the various forms of scrofulous disease.

The more prominent symptoms are so apparent and so characteristic that the most unskilled may be able to decide whether the patient has chronic diarrhea; but to determine in what portion of the intestinal canal the affection is chiefly seated, to decide upon the extent of its ravages, to ascertain what peculiar shade or type the affection has taken on, to investigate its complications and modifications, to ferret out its producing or aggravating causes, and above all, to nicely and skillfully adjust remedies to meet the depraved conditions, is by no means an easy task, even for the educated and experienced physician. It should be borne in mind that this is a dangerous malady, and one which should not be trifled with or neglected. Its tendency is to corrode and destroy the bowels, a process which if unchecked, must sooner or latter result in death. There is little tendency to spontaneous recovery, nor is a removal of the exciting cause often followed by recovery. The disease becomes so firmly seated, and the powers of life so debilitated, that nature cannot rally.

Treatment. A warm, salt bath, several times a week, taken at bedtime, is beneficial. Flannel should be worn next to the skin, and the sleeping-room should be warm and well ventilated.

As will be seen from testimonials hereinafter inserted, Dr. Pierce's Golden Medical Discovery has achieved great success in curing chronic diarrhea. Its use should be persisted in for a considerable time to strengthen and tone up the bowels. To relieve the discharges, take Dr. Pierce's Compound Extract of Smart Weed, as needed from time to time.

CHRONIC INFLAMMATION OF THE LIVER.

(Chronic Hepatitis.)

This is what is ordinarily termed *liver complaint, torpid liver, and bilious disorder.*

Under this head may be considered all those chronic affections known as congestion, induration, and enlargement of the liver, and which result in deficient action, functional derangement, morbid secretion of bile, and various chronic affections.

Symptoms. Owing to the liability of other organs to become diseased during the progress of chronic affections of the liver, great precision in diagnosis is required to determine, by the symptoms, the organ which is *primarily* diseased and those secondarily affected. This requires not only familiarity with the signs of a complicated disease, but also thorough anatomical knowledge of the diseased organ, of the morbid changes which occur in its structure, and their influence on its own functions, as well as on those of other organs.

The symptoms may differ according to the circumstances, temperament, sex, age, or constitution of the individual, and the complications of the disease. The local indications are fullness of the right side, thus denoting congestion of the liver; a dull, heavy pain, which is increased

by pressure or by lying on the left side; a sense of fullness, weight, and oppression about the stomach; an aching in the right shoulder-blade; a dull, disagreeable pain in the shoulder-joint, which may extend down the arm, and which is sometimes felt in the wrist and joints of the hand. Not unfrequently the complexion becomes pale and sallow, and there is puffiness under the eye, headache, a bitter taste in the mouth, tongue coated white or covered with a brown fur, and hardness of the gums; there is frequent sighing, a hacking cough, fever, restlessness, and loss of sleep; sometimes an unnatural, greasy appearance of the skin, at others, it is dry and harsh, has scaly or branny eruptions, pimples, dark blotches, and troublesome itching. The urine is frequently scanty and high-colored, but variable as to quantity and appearance; it often produces a scalding sensation when voided, and, if allowed to stand, deposits a sediment which sometimes contains albumen. The pulse is very slow, particularly when the elements of the bile are not eliminated from the blood. The pulsations of the heart are easily quickened, and palpitation is excited if the subject be low and anæmic. There is depression of spirits, and a decided tendency to be discouraged and despondent. The functional powers of the stomach are impaired; there is loss of appetite, or it becomes capricious; uneasiness is felt in the region of the stomach, oppression, sometimes nausea and water-brash, or there is indigestion, flatulency, and acid eructations; the bowels become irregular, usually constipated, and occasionally subject to obstinate diarrhea attended with colicky pains; the stools are of a light clay color, sometimes hard and dark, again thin and very offensive, and occasionally green or black. As the disease progresses, during the day the circulation is sluggish, the feet and hands are cold, but at night the pulse is accelerated, and a burning sensation is felt in the palms of the hands and the soles of the feet.

The foregoing symptoms are not all present in one case, nor are any two cases alike in every respect. They vary according to the organs most implicated in the hepatic derangement. Thus, when chronic inflammation of the liver is associated with *heart* disease, the subject may have palpitation, excessive or defective action of the heart, attended with more or less pain and shortness of breath. If the *lungs* be specially influenced, then, in addition to the ordinary hepatic symptoms, there may be a dry cough, asthma, hurried respiration, bronchitis, hoarseness, and pain in the chest. If the *stomach* be the sympathizing organ, the tongue is coated white or brown, there is nausea, loss of appetite, flatulency, acidity, dyspepsia, fullness, and oppression, amounting, sometimes, to pain in the stomach after taking food; the food ferments and gives rise to eructations and various other manifestations of disorder. If the *bowels* are morbidly influenced by this affection, there is constipation or diarrhea, griping pain, distension of the abdomen, piles, and pain just within the points of the hips, thus indicating irritation of the colon. If the *brain* or *nervous system* sensitively responds, there is

headache, dizziness, disturbed sleep, depression of spirits, peevishness, capriciousness, lack of energy, irritability, and congestive symptoms. When the *skin* is involved the surface is dry, harsh, and scaly, displaying dark "moth-spots," blotches, or numerous little sores, and the countenance has a dull, tawny look. If the *kidneys* be disturbed by it, there may be pain and a sensation of weight in the back, while the urine may be scanty and high-colored, or abundant, pale, and limpid, frequently charged with sedimentary products of disease, and voided with difficulty. If the *womb* be implicated in this chronic affection, the menstrual function may be deranged, and result in an excessive or a deficient monthly flow, and be followed by profuse leucorrhea.

The preceding allusion to the complications of chronic inflammation of the liver shows the necessity of clearly distinguishing between the symptoms of this disorder and those reflected by the organs which sympathetically respond. To discriminate more effectually, and place the correctness of the diagnosis beyond doubt, we make a chemical and microscopical examination of the urine, and thereby detect the morbid products which it contains, and direct our attention to the diseased organs furnishing them. These examinations together with a complete history of the case, enable us to make a correct and definite diagnosis of the disease, and the extent to which it has affected the other organs.

Before entering upon the consideration of treatment, let us briefly enumerate the functions of the liver: *First*, it removes matter, which, if allowed to remain in the blood, would become noxious and unfit it for the further support of the body. *Secondly*, by secreting bile, it furnishes to the digestive organs a fluid which assists in converting the food into chyle, stimulates the intestine to action, and then is itself transformed and absorbed with the chylous products, after which it circulates with the blood and assists in nutrition until, becoming injurious and pernicious, it is re-secreted and re-elaborated to serve again, as described.

For its growth and nourishment, the liver is furnished with blood by the hepatic artery; but for the purpose of secretion and depuration, it is abundantly supplied with venous blood by the portal system, which is made up of veins from the spleen, stomach, pancreas, and intestines. This impure, venous blood, surcharged with biliary elements, which must be withdrawn from it, is freely poured into the minute network of this glandular organ. In a healthy condition of the liver, the carbonaceous elements of the blood are converted into sugar, and the constituents of the bile are liberated by the liver, and set apart for further duties. When it fails to eliminate these noxious elements from the blood, it is itself thoroughly vitiated by them.

Treatment. Food must be rich in carbon in order that it may build up the tissues and keep the body warm, but carbonic acid, the result of the combustion, must be removed from the blood, or death will ensue. So bile is necessary to digestion, nutrition, and life; yet, if it be not

separated from the blood by the secreting action of the liver, it will as surely poison the system and destroy life as carbonic acid. Although the constituents of the bile exist in the blood, they must be removed in order that the blood may be rendered more fit to support the body, while the secreted bile is destined to assist in digestion, and the mysterious process of nutrition. Therefore, we should induce a secretion of bile, and restore the normal activity of the liver. This should be done, not by administering stimulants, but by relieving it of all contingent embarrassments as far as possible. Would any one think of giving to a weak, debilitated man large portions of brandy to enable him to work? Does not every one know that, when the unnatural stimulus is removed, he fails? Apply this principle in the treatment of the liver. When harsh, unnatural stimulants and "bile-driving" medicines are administered for a time and then withheld, the liver relapses into a more torpid and debilitated condition than before treatment was begun. Is not this true of nine-tenths of all who suffer from this malady, and have recourse to this class of remedies?

Then how can we remedially fulfill the preceding indications? We answer in the language of a distinguished author and standard medical writer, "by using a class of agents which should never be overlooked in the treatment of long-standing liver diseases, chiefly addressed to the blood and denominated '*alteratives*.'"

Alteratives, *tonics*, and *restorative catalytics* are required not only in diseases of the liver, but in a large number of ailments in which the blood becomes charged with morbid materials. The active remedial properties of the most efficient agents of the above classes of medicine now known, are scientifically combined in the "Golden Medical Discovery," which acts *especially* upon the blood, and hence influences the system generally. It is also powerful in eliminating those morbid humors which are afterwards subjected to excretion through various organs.

Its action is radically different from most medicines employed in chronic diseases, for the reason, that what is usually prescribed, is something corrosive. Unless the disease be temporary, it may return with increased violence.

We have been very minute in the description of the remedial properties of the "Golden Medical Discovery," and have relied upon the reason and intelligence of our patrons, believing that they can, in a degree, understand why we deem it so applicable to the system. It does not debilitate the liver by overstimulation, nor irritate the stomach and bowels by disturbing the delicate processes of digestion, neither does it act with severity upon the blood, but it operates so gently, insensibly, and yet with so much certainty, that it excites the surprise and admiration of the patient.

From the careful detail of its various properties, there is abundant reason for its favorable action upon all of the excretory organs, which

co-operate in the removal of morbid materials from the system. If, however, the bowels are unusually sluggish or obstinately constipated, it is advisable, in conjunction with the "Golden Medical Discovery," to use the "Pleasant Pellets," which are also powerfully alterative, besides being mild and unirritating in their operation. They are the natural assistants of the "Discovery," working harmoniously together. They should be taken in small doses, and their use perseveringly followed, until the bowels are properly regulated by the use of the "Discovery" alone.

It has been customary to resort to powerful drastic cathartics, followed by bitters prepared in dilute alcohol. The habit is unscientific, for it is well known that alcohol deranges the functions of the digestive organs and depraves the blood, besides creating a morbid appetite. It has been repeatedly demonstrated that the use of such bitters has led to a life of drunkenness, with all the woe and untold misery which attend it.

Medicines to be strictly remedial, should exert a tonic influence upon all the vital processes. Those organs which are contiguous to the liver, or connected by sympathy with it, should be assisted in the performance of their functions. Persons who are habitually subject to "bilious" attacks are pleased to find that the use of the "Discovery" and "Pellets" furnishes immunity from such onsets, and prevents their usual recurrence. Thus these remedies are *preventive* as well as *curative*.

What we have thus far recommended for the treatment of this chronic affection is within the reach of every family. Patients laboring under this disease, when complicated with other affections, require special consideration and treatment, and all such are counseled to employ only those physicians whose experience and success entitle them to confidence. Health is one of the greatest of blessings, and how to restore it when lost, is a question of vital importance.

Having successfully treated thousands of invalids who have suffered from this chronic affection, we possess abundant evidence of the curability of the disease, but we have only space to publish a few letters from persons who have been under our care, or who have used our medicines, purchased from druggists.

CONSTIPATION. (Costiveness.)

Health depends very largely upon the regularity of the bowels. There should be proper alvine evacuations every day. There are few persons who have not suffered at some period of their lives from constipation of the bowels. Inattentive to the calls of nature, or a neglect to regularly attend to this important duty, sooner or later, produces disastrous results. Furthermore, it is essential to the comfort of every individual, for, when this function is not performed, there is derangement of the mental as well as of the bodily organs.

Constipation, or *costiveness*, as it is sometimes termed, is a functional derangement of the large intestine. This intestine is about five feet in length, and consists of the cæcum, colon, and rectum. It serves as a temporary reservoir for the excrementitial residue of alimentary matter, and for the effete materials excreted by the glands contained in its mucous coats. It is distinguished as the *large* intestine, because of its great size.

Habitual constipation produces many derangements, resulting from *sympathy*, *irritation*, or *mechanical obstruction*. By referring to Figs. 4 and 9, the reader may observe the anatomical relations which the large intestine sustains to the other abdominal organs. The ascending colon arises in the cæcum (Fig. 4), at the lower part of the abdomen, and passes over the kidney on the right side, where it begins a circuitous route around the abdominal cavity, comes in contact with the inferior surface of the liver, proceeds behind and below the large curvature of the stomach, emerges on the left side, and passes downward in front of the left kidney, where it dips into the pelvic cavity, and ends in the rectum.

If fecal matters are retained until they are decomposed, great injury follows, since the fluid portions are absorbed, conveyed into the blood, and, of necessity, corrupt it with their impurities. In this way, constipation may be the source of general derangement, but *such* disorder is seldom attributed to the torpid state of this intestine. There is little doubt but that it thereby imposes a great tax upon the functions of the liver, and, frequently, the fault is attributed to that organ instead of the large intestine. Sometimes the blood becomes so charged with fecal matter that its odor can be detected in the breath of the subject.

An overloaded condition of the large intestine may cause inflammation of the liver or dropsy of the abdomen. When the colon is distended, it becomes a mechanical impediment to the free circulation of the blood in other organs, and causes congestion of the portal system, predisposing to chronic inflammation or cirrhosis of the liver. This latter is a structural affection, and may, in turn, give rise to abdominal dropsy. In a word, the accumulation of feces in the colon irritates both the large and small intestines, thus causing congestion of the bowels, liver, or stomach.

The protracted presence of feculent matter deadens the sensibility of the intestine, so that great stimulation is required to provoke it to action. The contents become dry, solid, knotty, and hard, and very difficult to evacuate. If drastic, irritating physic be taken, only *temporary* relief is afforded, and it must be repeatedly resorted to, and the dose increased, to obtain the desired effect.

Symptoms. One diagnostic symptom of a loaded state of the colon, is an abundant secretion of urine, as limpid as water. The direct symptoms relate to the hardness of the feces and the great difficulty of voiding them. The influence of constipation upon the functions of the

liver, is indicated by the sympathy displayed between that organ and the mind. The patient manifests apprehension, mental depression, taciturnity, and melancholy, all indicative of hypochondriac dejection, induced by constipation.

We have treated patients, who, from this cause, had renounced their bright hopes, lost their buoyant spirits, and, becoming subject to superstitious fears, had given themselves up, night and day, to devotions and penance. It often happens that the victims of this deep dejection and morbid feeling of self-abasement, are persons not only of good moral character, but of high religious attainments, and their painful exhibitions of fear, distrust, and gloom, originate in *physical* rather than in spiritual causes. It is interesting to witness this strange perversion of the imagination, this morbid debasement of the religious faculties, and dejection of mind, due to causes disturbing the functions of the liver and other vital organs.

Young girls, as they approach the age of puberty, seem possessed with the idea that the unfrequent action of the bowels is a desirable habit. They do not associate with the duty a proper regard for health, but consider it as an inelegant and repugnant practice. The consequence is, that at this susceptible period, constipation, induced by neglect, arouses a latent hepatic or pulmonary disease which has been lurking in the system.

How many girls illustrate the truth of this statement by their complaints of dizziness, throbbing pain in the forehead and temples, flushing of the face, transient flushes of heat over the body, while at the same time the extremities are cold. At other times, they manifest the evils of such a course by their stupor, drowsiness, and deep sleep, although upon arising in the morning, they are still tired and unrefreshed.

The constipated condition of the bowels, often leads to congestion of the uterus and leucorrhea, followed by uterine debility, prolapsus, excessive menstruation, anteversion or retroversion of that organ. The infrequency of the habit, incorrectly supposed to be desirable by a young woman, becomes nearly, if not quite disastrous to all her desires and bright prospects. Complications arise, and neither the inexperienced girl nor her solicitous and afflicted parents know where to look for remedial aid. If they seek an asylum from these sufferings, they find many private institutions, where flattering expectations of speedy recovery are aroused. At such institutions, these uterine disorders are generally treated merely as local diseases, while the causes are overlooked, and, consequently, a permanent cure is not effected. Having spent nearly all the money at her command, the patient returns home utterly disheartened. After such failures, many of these unfortunate individuals have applied to us and received treatment, and by persistently following our directions, have in due time been restored to health, amid all the comforts of home, and among friends, who rejoiced with

them in the unexpectedly favorable turn of affairs, accomplished at a comparatively trifling expense.

We have seen infants, and also young children, in whom constipation was obstinate. It therefore seems that it is often hereditary. In some persons, this affection continues from childhood, with but little variation, until bleeding pile tumors are developed. Habitual constipation of the bowels for a long period of years will generate a class of diseases, which are often very serious in their results.

Causes. We have already alluded to a sense of false modesty which prevents a response to the calls of nature, and we may mention other reasons, equally trifling, which deter many from fulfilling its demands. Some are in the habit of temporarily postponing their visits to the water closet, until, when they do go, they find themselves unable to evacuate the bowels. Sometimes the closet is a damp, uncomfortable out-house, situated at a distance from the dwelling, or the access is too public, and, hence, there is an unwillingness to visit it at the proper time. Some appear to be too indolent to attend to this duty. Others are too energetic, and think they cannot take the time, until they have finished some self-imposed task or attended to a pressing engagement.

Inactive life and sedentary occupations are also causes of constipation. Active exercise promotes all the bodily functions, and helps to regulate the bowels. Those who are engaged in literary pursuits, find that mental occupation determines the blood to the brain, thus drawing it from the extremities; the temperature falls below the natural standard, and there is almost invariably congestion of the bowels. The inmates of boarding-schools, factory girls, seamstresses, milliners, employés in manufacturing establishments, and all who sit and toil almost unremittingly twelve hours in the day, do not get sufficient exercise of all the muscles of the body, and are often troubled with obstinate constipation.

Food prepared according to the modern modes of cookery, is one of the causes which favors the developement of this derangement. People live too exclusively upon bolted wheat flour. The branny portion of a kernel of wheat consists of various nutritive elements, with more than five times the amount of phosphate of lime contained in fine bolted flour. Those who daily use boiled cracked wheat are not troubled by constipation. There is no dryness or hardness of the feces, and the bowels are evacuated without discomfort.

Treatment. Prevention is always better than cure; hence, a few hygienic directions may not be amiss. Do not disregard the intimations of nature, but promptly respond to her calls. If there is constipation, overcome it by establishing the habit of making daily efforts to effect a movement of the bowels. Taking regular exercise by walking, and lightly percussing or kneading the bowels for five minutes daily, help to increase their activity. The habit of early rising favors the natural action of the bowels. Drinking a glass of water on rising exerts a

beneficial influence. The food should be such as will excite the mucous secretion of the large intestines, and arouse its muscles to action. For this purpose, there is no one article that excels coarsely-cracked boiled wheat. Graham bread, mush, cakes, gems, and all articles of diet made from unbolted wheat flour are valuable auxiliaries, and may be prepared to suit the taste. Take the meals at stated hours; be punctual in attendance, regular in eating, and thoroughly masticate your food. Irregularity in the intervals between eating, disturbs the functions of the intestine. The use of ripe fruits, such as apples, pears, grapes, figs, and prunes, in proper quantities, is sometimes very beneficial. Trivial or unimportant as these hygienic suggestions may appear, yet were they observed, constipation, as well as most of the diseases incident to it, would be obviated. A large proportion of the cases will yield to the foregoing hygienic treatment without the employment of medicines. Should it be necessary, however, to employ an aperient to relieve the constipation, Dr. Pierce's Golden Medical Discovery will act most congenially, and will be followed by no constipating reaction, which invariably occurs when drastic cathartics are employed. Its operation is mild, bringing about a healthy action by promoting the biliary and other secretions, thus aiding nature in establishing normal functional activity in the bowels. Recourse should be had to it before employing any thing more strongly cathartic. However, should it prove too mild in its aperient effects, small doses of Dr. Pierce's Pleasant Pellets may be employed daily to assist it. Unlike other cathartics, they produce a secondary tonic effect upon the bowels, which renders their influence more lasting than that of other purgatives. We cannot too strongly discourage the injurious custom which many people have of frequently *scouring* out their bowels with strong cathartics. It is a bad practice, and cannot fail to do injury. The greatest benefit is derived, not from cathartic doses, but from taking only one or two of the "Pellets" per day, or enough to keep the bowels regular, and continuing their use for several weeks, in connection with Dr. Pierce's Golden Medical Discovery, strictly carrying out the hygienic treatment heretofore advised.

The medical treatment of individual cases sometimes involves many considerations relative to the particular circumstances and complications presented. The peculiar susceptibility of the constitution, as well as the diseases incident to constipation, must be taken into account. Symptomatic derangement should not be treated as primary, although it is by inexperienced physicians. If the patient be afflicted with uterine disease, piles, nervous affections, falling of the lower bowel, or fistula, they should be treated in connection with this disease. For these reasons, we would advise our readers to submit all complicated cases, or those that do not yield to the course heretofore advised, to a physician of large experience in the management of chronic diseases, and not assume the great responsibility and the dire consequences which are

very liable to arise from the improper treatment of such cases. We have been called upon to treat thousands of cases of this troublesome affection, and as a result of our vast experience, and in consequence of our original and improved methods of diagnosis, it is not generally necessary that we should see and examine the patient in person. We can almost always determine the exact nature of the patient's malady, and its stage of advancement, without seeing the subject in person.

PILES. (HEMORRHOIDS.)

There are few maladies more common than this, and few which are more annoying. Piles consist of tumors formed within the rectum and about the anus, by dilatation of the hemorrhoidal veins and thickening of their walls. Sometimes, when attended by considerable inflammation, or when the attacks are very frequent, there is thickening of the adjacent cellular and mucous tissues.

There are two general forms of this disease, the external or blind piles, in which the tumors are outside the anus, and the internal or bleeding piles, in which the tumors are formed within the sphincters, although after their formation they may protrude. The external piles are commonly made up of thick tissues; upon one side, the skin forms the covering, while on the inner surface is the mucous membrane of the bowel. It is this surface which is most tender and irritable and liable to inflammation. The internal form of the disease is situated from a half an inch to two and a half inches above the sphincter muscle of the anus. The tumors are usually round, oval or cylindrical in form. They may be scattered over the surface of the bowel, or clustered together. The illustrations (Figs. 1 and 2) show the two forms of the disease. The two protruding tumors in Fig. 2, illustrate the usual form of prolapsing internal piles, whilst the one highest up in the bowel shows the form most commonly met with. It is seldom that one pile tumor is found alone, there usually being two or three, and sometimes as many as five or six, in a cluster. Fig. 3 shows the manner of distribution of the veins in the rectal region. The small venous loops, or bulb-like terminations of the veins H. *i.*, are the points at which the piles most frequently occur.

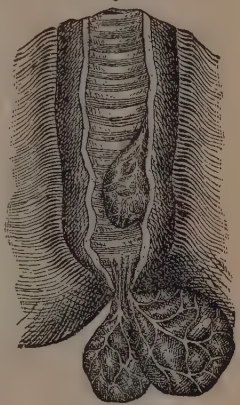
Fig. 1.

Swollen External Piles.

Causes. Whatever tends to favor an undue accumulation of blood in the hemorrhoidal veins predisposes to piles. For this reason the affection is frequently a result of diseases of the heart and liver, which cause an obstruction in the circulution of the blood through the portal vein. Mechanical pressure from tumors in the abdomen, pregnancy, or an enlarged or misplaced uterus, is not infrequently a cause of the dis-

ease, by keeping the hemorrhoidal veins over-distended. Those diseases which provoke much straining, as stricture, inflammation or enlargement of the prostate gland, and stone in the bladder are also active causative agents. The most common cause of all, however, is constipation; and persons of indolent, sedentary and luxurious habits of life are the ones most frequently affected with this derangement. The following are also prolific causes of piles, viz.: pelvic tumors, violent horseback exercise, indigestion, pregnancy, habitual use of drastic cathartics, diarrhœa, dysentery, sitting on heated cushions, long-continued standing posture, diseases of the liver, worms, the wearing of tight corsets, eating highly seasoned or indigestible food, and the use of alcoholic stimulants. No age is exempt from piles, nor is the disease peculiar to either sex. Aside from the serious inconvenience and pain which are experienced with most forms of piles, there is a tendency to fistula, and to cancer in the rectal region. It is important, therefore, that the disease should not be allowed to run on unchecked.

Fig. 2.



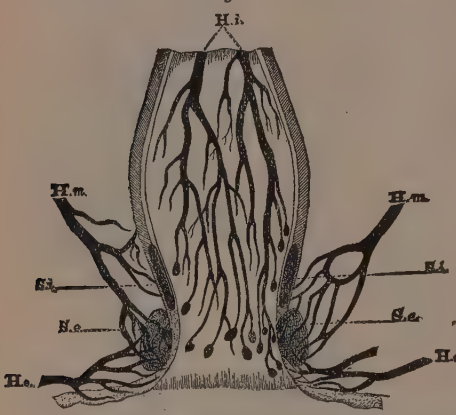
Piles: internal and protruding.

Symptoms. The most common symptoms at first are slight uneasiness, such as a little soreness or itching at the verge of the anus, and at times lancinating pains. These sensations are more severe as a rule if the bowels are constipated. If the piles are external they frequently become inflamed, swollen and painful, and in some instances they suppurate, which usually results in relief. When internal piles have increased to any considerable extent, or have become inflamed, they produce not only itching at the extremity of the bowel, pain in the back, etc., but also a sensation of fullness in the rectum, as though some foreign body were present, and, on action of the bowels, there is a sensation as though a portion of the fæces had not been expelled. When the internal piles become large, they frequently come down with fæcal matter from the bowel, as illustrated in Fig. 2, and this prolapsus becomes more and more marked with the progress of the disease, until, in many cases, the tumors are forced down at each action of the bowels, causing excruciating pain until they are properly replaced. Usually, in the early stages, they recede spontaneously; however, after a time it becomes necessary for the sufferer to press them back, but in some instances this is impossible. Frequently during the protrusion one of the hemorrhoidal veins gives away, and this is followed by a free escape of blood, and ulceration may ensue. Not infrequently with this disease the patient loses strength and flesh, and the face becomes pale and puffy, assuming a waxy appearance. Many times there is nausea, with vertigo. In consequence of the relaxation, the bowel may descend

when on the feet, or with some extra muscular effort, especially when stooping. These symptoms may not all be present in one person, and, indeed, sometimes are somewhat obscure; when such is the case, an examination by a competent physician will always determine the true character of the complaint at once.

Treatment. Notwithstanding the well established fact that piles are readily cured by the appropriate treatment, hundreds of thousands of people suffer untold tortures from them because of the popular impression that they cannot be cured. All cases are not, however, amenable to the same form of treatment, for various unhealthy conditions of the system are often concerned in their production and perpetuation, and must, of necessity, be remedied by appropriate treatment, before a cure of the piles can be expected. It will, therefore, become apparent that the avoidance of causes is of paramount importance. Some of these causes are external, and wholly under the control of the patient, while others depend upon diseases that are curable; it frequently happens that while other diseases are being remedied, the piles disappear without any special attention.

Fig. 3.



H. *i.* Internal hemorrhoidal veins. H. *m.* Middle hemorrhoidal veins. H. *e.* External hemorrhoidal veins. S. *i.* Internal sphincter muscle, S. *e.* External sphincter muscle.

Diseases of the urinary apparatus, as stricture of the urethra, enlargement of the prostate gland, and stone in the bladder, dysentery, diarrhea, and constipation,—all cause piles, by the irritation, and determination of blood, which they induce; these difficulties must be removed by appropriate treatment.

Some years since, we ascertained that we were using in our practice remedies which, in addition to other virtues, possessed a direct specific influence upon the vessels concerned in the formation of piles. These agents enter into the composition of Dr. Pierce's Golden Medical Discovery, which, consequently, will be found exceedingly efficacious in the treatment of this disease. This remedy, therefore, in removing the disease upon which the piles depend, as a congested or torpid liver, constipation, etc., and in exciting a direct curative control over the piles themselves, exerts a double influence. It may be aided, when the bowels are badly constipated, by the use of Dr. Pierce's Pleasant Pellets, taken in

the morning, to secure a regular and easy evacuation of the bowels each day. All stimulating food and alcoholic drinks should be abstained from. The cold bath is beneficial in these cases, provided there is not great debility. The affected parts should be bathed frequently with cold water, and, if prolapsus exists, it is well to inject a little cool water into the rectum, and allow it to remain a few minutes. As a soothing, astringing and healing application to the affected parts we prepare an Ointment that has acquired great fame for the prompt relief which it affords in all ordinary cases. This we do not sell through druggists but can send by mail, on receipt of price, $1.00 per large box, postage prepaid. The persistent use of this Ointment, at the same time keeping the bowels regular by the use of "Golden Medical Discovery," with an occasional laxative dose of "Pellets," will generally cure all ordinary cases of piles.

The Radical Cure of Large Pile Tumors. In cases in which the tumors have become indurated and very large it is impossible to effect cures by the foregoing or any other medical treatment. Various methods have been in use by the profession for the relief of the most severe cases. The most common is excision with the knife or scissors. Reference to the large vessels, shown in Fig. 3, which are affected in this disease, will at once show the sufferer the dangers of this method. The sudden removal of a tumor, which is connected with one or more of the large hemorrhoidal veins, is sure to be followed by severe hemorrhage, and many times painful ulceration, and a fatal result. To avoid this it has been the practice of many physicians to apply caustics or to burn off the base of the tumors with a red-hot iron. A more barbarous and painful method could not be devised. When it is considered that in many cases, this severe and painful treatment is followed by ulceration, and occasionally by the developement of cancer, the matter should be carefully weighed before any such dangerous procedure is attempted. Another common method of treatment is to crush the base of the pile with a clamp, and then cut off the tumors with scissors. After this it is also necessary to apply the hot iron to prevent hemorrhage. Formerly, applications of nitric acid were in common use by physicians as a means of cure, but it was found that while this treatment would give temporary relief, yet in no severe case would it effect a cure. By what we term palliative treatment alone more cures are effected than by the old process of treatment with nitric acid, Still another form of treatment is strangulation of the pile by means of a ligature, and this is often more painful than the application of hot irons, inasmuch as in cutting off the return flow of blood from the piles, a large tumor is left for days fully distended and extremely painful. It does not slough off for a considerable time, and we have seen the strongest men suffer intensely, to whom the use of scissors in removing the tumors was a positive relief in comparison with the torture of the ligature. A treatment that has been highly recommended by some physicians and condemned by others, is

the process of injection with carbolic acid. This method of treatment is not very painful but, unfortunately, it is dangerous. The injection of the tumors with a fluid which causes coagulation of the blood, and which does not completely shut off the return current of the circulation through the tumors, has proved fatal in a small percentage of cases. The clots which are formed by this treatment become detached and are carried into the general circulation and conveyed to the liver, lungs and even to the brain, where, by plugging up the vessels of those organs, they cause abscesses which terminate life. Serious inflammation of the veins is another accident which often follows the injection of carbolic acid. This treatment is, therefore, now seldom resorted to except by physicians who do not appreciate its dangers.

A More Successful Method. Fortunately for suffering humanity, a method of treatment has been perfected and thoroughly tested in our institution, in which all such trouble and danger as above described are avoided. This consists in bringing down the tumors, cleansing them and making application of certain chemical preparations, that cause the tumors to speedily shrivel up, and in a very short time, say ten to fourteen days, disappear entirely. These treatments and applications cause *no pain whatever*, for by first applying a weak solution of cocaine to the parts they are speedily rendered entirely insensible, so that the most sensitive, nervous lady experiences not the slightest suffering from the application of our remedies.

Having now at our command means so positively certain in their action upon pile tumors, we do not hesitate to say that the very worst cases, no matter of how long standing, can be promptly cured, if we can only have the patient for a few days under our personal care. Considering the very distressing character of pile tumors, it is a great boon that we have at last found safe, painless, and positively certain means for their cure. The news will be hailed with joy by a large class of sufferers.

Probably no other discovery in modern science is destined to be the means of conferring greater blessings on a large class of sufferers than that of a painless and positive method of curing the largest pile tumors in the brief time required by our system of treating them.

It seems to us that there is no longer an excuse for any one to endure the tortures inflicted by pile tumors, provided the afflicted one can command the little time and moderate amount of means necessary to secure the treatment indicated. Piles are not only in and of themselves very painful and annoying, but often greatly aggravate and even cause other grave and painful affections, and should, therefore, not be neglected. When large, they never get well without proper treatment. We have seen many cases in which the long train of diverse and distressing symptoms caused by piles led the sufferer, and even the family physician, to suppose that other diseases existed, but all of which annoying symptoms were speedily dispelled by the cure of the piles. We have no doubt that neglected piles, fistulæ, and other morbid conditions of the

lower bowels, frequently degenerate into cancerous disease. We have the eminent authority of J. Hughes Bennett, of Edinburg, and many other close observers, for saying that benign or ordinary tumors often degenerate into real cancerous disease, and our own extensive observation convinces us that this is not infrequently a result of neglected rectal disease, as piles, fistulæ and fissures. How important, then, to give prompt attention and skillful treatment to disease of these parts. When the ordinary palliative treatment, with ointments and with laxative agents to keep the bowels soluble, does not *completely and perfectly* subdue the malady, lose no time in securing the most skillful appliances, that every vestige of the affection may be promptly removed. We have treated many thousands of cases with uniform success, and our patients write to us expressing the greatest degree of satisfaction, and recommending our method most highly.

Reports of a few cases, selected at random from the large number which we have cured, are given below to illustrate our success in curing them.

ANAL FISTULA. (Fistula in Ano.)

This disease is *more dangerous* than piles, though, after once formed, not so painful. It sometimes commences with intense itching about the anus, accompanied with a little discharge; or the first symptom may be a painful abscess, like a boil, which finally breaks. The soreness then in a measure subsides, leaving a fistulous opening, with a continuous discharge of matter. This unnatural opening, with its constant drain upon the system, sooner or later is certain to ruin the health or develop consumption or other maladies, and destroy life.

Fistula in Ano may exist in three conditions: First, complete fistula —when the opening is continuous from the cavity of the rectum or bowel to the surface of the skin, so that liquids, gases, etc., escape; secondly, internal incomplete fistula, when the opening extends from the inside of the rectum into the tissues surrounding it, but not through the skin. A few cases of this kind exist, while the sufferers are unconscious of the nature of the difficulty, supposing it to be piles or some trouble—they know not what. Thirdly, external, incomplete fistula, when the opening extends through the skin into the tissues around the rectum, but does not enter the bowel.

Other complications, such as pendulous tits or projections, from one-fourth to one and a half inches in length, are attendant upon fistula. Two or more openings may appear in the skin, all communicating with the same sinus, or opening into the rectum. Sometimes only a small external opening is seen, while a large abscess exists internally. In any case, the discharge is not only reducing to the system, but it is disgusting and offensive.

Causes. The causes are a constitutional predisposition, constipation, piles, or the presence of foreign bodies in the rectum, causing an

abscess or ulcer. Some authors have contended that fistula always originates from an ulcer in the rectum, which gradually makes its way through the cellular tissue to the surface. Others contend that the cause of this disease consists in an abscess, which burrows in the tissues and makes its exit into the rectum, or through the skin, or both. No doubt it may originate in both ways. It can readily be seen that when an internal opening is once established, the *fæces* which enter into it must sooner or later work their way to the surface, burrowing through those parts which offer the least resistance, until a place of exit is reached.

Diagnosis. The disease may be suspected, if there has been an abscess in the parts involved, or if the patient has been subject to pain in the rectum, and the parts are tender, tumid, or indurated. When the fistula opens externally, the linen will be moistened and soiled with pus, or a bloody fluid, and when the tract is large, the *fæces* may pass through it. A careful exploration with a probe, passed into the external opening while the finger is in the rectum, generally reveals the direction of the tract; but, sometimes, in consequence of the tortuous course of the canal, the probe cannot he made to follow it. When the fistula is incomplete, and opens internally, the probe is passed into the rectum and directed outwards, when it may be felt externally. In such cases, a tumor, caused by the contents of the fistula, may generally be seen protruding near the anus, and the pain will be considerably increased during defecation, by the *fæces* passing into it and disturbing its walls. The examination should be made with the greatest possible care, for it is attended with more or less pain.

Treatment. When constitutional derangement exists, it must be rectified, or any treatment will be liable to result in failure. The comfort of the patient may be greatly promoted by attention to the bowels, keeping their contents in a soluble condition, and the liver active, so as to prevent congestion of the rectum and adjacent structures. This can best be done by careful attention to hygiene, and the use of "Golden Medical Discovery" and "Pellets," in sufficient quantities to produce the above named effects.

A *radical cure*, however, cannot be accomplished except by surgical means, for which we have the *knife*, *ligature*, *caustic*, *stimulating injections*, *etc.*, which may be varied to suit the emergency, but which should never be employed except by a competent surgeon. Constitutional conditions materially influence the cure, no matter what procedure is adopted; the greater the constitutional derangement and the poorer the general health, the longer is the cure delayed. The great secret of our success in treating this disease consists in applying appropriate constitutional treatment at the same time.

The use of the knife is becoming obsolete, and has, to a great extent, given way to other measures which are equally successful. Indeed, other means will succeed in cases in which the knife fails or is for any reason inapplicable. One great objection to the knife is, not only the

dread which patients entertain of it, but the great liability of its use to result in paralysis of the sphincters of the anus, the consequence of which is loss of control over the bowels; and another is that it sometimes entirely fails to result in cure. By the means which we employ, these objections are entirely overcome, and, while the general system is being renovated, the fistula is healed, without any complications.

Fistula is much more common than has generally been supposed. It is apt to be associated with pulmonary diseases. Heretofore, it has been supposed that to heal the fistula, during the progress of the lung affection, would result in fatal consequences, and the patient has been left to suffer and die under the combined influence of the *two* diseases. Observation, based upon an extensive experience in the management of such diseases, has proved that supposition to be fallacious in every respect, and we would urge all persons afflicted with fistula to have the affection cured, no matter what complications may exist. The fact underlying this erroneous opinion is, that when grave constitutional troubles have co-existed the use of the knife has resulted in failure, and the fistula has refused to heal.

Having had ample facilities for observing the relative merits of the various methods of treating this complaint, in hundreds of cases, in our own practice and that of others, we feel justified in saying that the plan which we have adopted is far superior to that in general use. The local treatment which we employ depends upon the nature of the fistula; in some instances the ligature is best, in others caustics, and again injection, etc., while still others require a combination of two or more methods, or a modification of them.

In cases in which it is impossible for the patient to come to our hotel for a radical and speedy cure of the fistula, we employ constitutional treatment, with the use of a medicated crayon, which is similar in shape to a small slate pencil. This crayon is made of gelatine with the remedial agents thoroughly incorporated through it, and in an easily soluble form. They are very flexible and readily used, and where the fistulous track is sufficiently large to admit of their insertion, the most decided improvement invariable follows their application. One is oiled and gently introduced into the track every two or three days, and by its solution the unhealthy tissues which line the track are removed. They are thrown off, and a healthy action is induced. With careful constitutional treatment, decided improvement soon follows, and the discharge is gradually lessened. The most satisfactory improvement occurs in the general health and strength of the patient, and gradually the fistula closes. Sometimes it is necessary to pursue this course of treatment for many months, but the result obtained is sufficient reward for the trouble. A large percentage of cures follow this treatment, and we recommend it when it is impossible for the patient to leave home, or when the general health is greatly reduced by severe constitutional disease.

TESTIMONIALS.

While we have a great cloud of witnesses testifying to the efficacy of our treatment of the diseases described in this little book, yet for lack of space we can here introduce only the few following :

"LIVER COMPLAINT."

J. H. MAY, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—In the year 1889 I was taken with disease which the doctors called "liver complaint." I tried three different doctors. They did me no good. They tried about one year; I was not able to work for two years. At last I thought I would try Dr. Pierce's medicines, and I wrote to Dr. Pierce, and he wrote to me to take his "Golden Medical Discovery," and I bought two bottles, and when I took it, I saw it was improving me, and I got five more, and before I had taken all I was well, and I haven't felt the symptoms since. I had a continued hurting in my bowels for about two years. I feel as if the cure is worth thousands of dollars to me.

Yours truly,
J. H. MAY,
Potts' Station, Pope Co., Ark.

DYSPEPSIA AND WOMB DISEASE.

MRS. RANSOM.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Dear Sirs—When first taking Dr. Pierce's Favorite Prescription I was nervous and would have sour stomach and distress after eating, and when I would rise after stooping over everything would turn dark before me and I would feel dizzy. I suffered a great deal of pain at each monthly period. I took one bottle and a half of the "Favorite Prescription," one teaspoonful three times a day, and the "Pellets" as directions called for. I gained in health and strength so rapidly that I have been able to work very hard the past summer, and my back never troubles me; and when I have my monthly periods I never feel the least bit of pain. In fact I consider myself in excellent health.

Very truly yours,
MRS. INEZ V. CARR RANSOM,
Panama, Chaut. Co., N. Y.

INFLAMMATION OF LIVER.

T. J. BENTLEY, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I was taken sick with inflammation of the liver and could get no relief from the doctors of this place—Randolph, N.Y. I was induced to use Dr. Pierce's Golden Medical Discovery, and "Pleasant Pellets," and after using five bottles of the medicine, I regained my health, and now I am a well man. I weighed 185 pounds before taken sick, and I was reduced to 135 pounds in sixty days' time. I suffered greatly from headache, pain in my right shoulder, poor appetite, constipation and a sleepy feeling all the time. My health is now very good, and I weigh 170 pounds, and I am able to do a good day's work without any trouble at all. Thanks to these valuable medicines.

Yours truly,
THOMAS J. BENTLEY,
Randolph, Catt. Co., N. Y.

MRS. HART.

LIVER DISEASE AND DYSPEPSIA.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Dear Sirs—I am enjoying excellent health. After taking a bottle of Dr. Pierce's Golden Medical Discovery and several bottles of "Pellets," I am a different person. Only weighed 119 pounds when I began taking your medicine, now weigh 160. My symptoms were pain under the left shoulder, distress after eating, headache, dizziness, constipation, and, in fact, my system was "out of sorts generally." I tell every one your medicine has done more for me than any other.

I remain, yours truly,

MRS. CHARLES H. HART,
San Ardo, Monterey Co.,
California.

LIVER COMPLAINT AND CATARRH.

WM. KING, ESQ.

Dear Sirs—After suffering for several years with nasal catarrh and liver complaint, and having become greatly reduced in health, as a last resort I placed myself in your hands for treatment. My improvement began almost immediately after entering your institution. I was enabled to leave at the end of one month, having experienced great benefit. The treatment was continued at home for a few months, after which my cure was complete. At the present time, I am able for office work, and feel that I am completely cured of the catarrh and have but little if any trouble with my liver. I shall lose no opportunity to recommend your institution or your medicines to the afflicted. I do most unhesitatingly recommend chronic sufferers to visit your institution or take your remedies at home.

Sincerely yours,
WILLIAM KING,
Rose Bud,
Pope Co., Ills.

MRS. RADEMAKER.

A COMPLICATED CASE OF STOMACH, LUNG, AND UTERINE DISEASE.

Dear Sirs—Some six years ago I was taken sick with chills; I would have a very bad chill and then I would begin to sweat and vomit; I had no appetite; I had the catarrh very bad; I had inward troubles of different kinds; my back ached all the time; I had sores gather and break inside; I had a lung trouble; I was very bad off; I could sit up only long enough to have my bed made; my husband sent for our family doctor; he came three times a week for three months; I was not so well at the end of three months as when he first came, but kept growing worse; he gave me up to die, and said I had consumption. I had heard of Dr. Pierce's medicines doing a good deal of good, so I made up my mind to try them. I sent and got one bottle of "Favorite Prescription" and one bottle of "Golden Medical Discovery"; also one bottle of "Pellets," and commenced taking them. In a few days I commenced to gain, and in two weeks' time I could sit up most all day, and in five weeks' time I could do my work with the help of two small girls. After taking four bottles of "Favorite Prescription," six bottles of "Discovery," and three of "Pellets," I was well enough to get along without any medicine. I can do a good day's work, and I owe my life to Dr. Pierce. With God's will and the use of Dr. Pierce's medicine I am still alive and well.

Yours respectfully,

MRS. CLARA A. RADEMAKER,
Addison Point, Washington Co., Me.

LIVER COMPLAINT AND DROPSY.

MRS. DENNIS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—About two years ago I was confined to my bed for several weeks with liver complaint. I became dropsical, my limbs swelled to twice their usual size and I could scarcely move them. I commenced using Dr. Pierce's Golden Medical Discovery; one bottle helped me so I could sit up; two bottles gave me strength enough to be able to do part of my household work; six bottles cured me, and to-day I am enjoying good health. The "Medical Discovery" should be in every household, and in gratitude for what it has done for me I have recommended it to many friends. For nine years I have suffered from deafness, and while taking the "Discovery" my hearing became much improved.

Very truly yours,
MRS. I. C. DENNIS,
Burson, Calaveras Co., Cal.

MR. HODGES.

INDIGESTION, CONSTIPATION, VARICOCELE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Dear Sirs—In regard to my condition of health, will say, although I am not entirely well, yet I have received much and lasting good from your treatment. My digestion was improved greatly, so that little trouble is experienced after eating; my liver seems to act reasonable well, and my bowels are much better. My varicocele I consider entirely cured, as I have not used the bandage for one half day for more than six months, and do not experience any inconvenience from that source.

Yours truly,
HARLAN HODGES,
Keota, Keokuk Co., Ia.

CASE OF CHRONIC DIARRHEA CURED BY HOME TREATMENT.

MRS. GWIN.

At the time the case was first submitted to us the bowels were moving six or eight times a day. In addition to the diarrhea, the patient had suffered from indigestion and womb trouble for eight years. There was almost continual pain from the top of the head to the hips and through the shoulders. There was weakness, soreness and numbness in the arms, hands, back and hips; the bladder was irritable, urine being passed frequently, or occasionally scanty, dark, thick, with a brick-dust deposit. There was a dragging sensation in the region of the womb. Menstruation was irregular, and she had frequent trembling spells lasting for hours. There was difficulty in fixing the attention, even for a sufficient length of time to write a brief letter. In fact, she was so weak and nervous she could scarcely write at all. Sleeplessness was a prominent feature of the case. The principal diet consisted of light bread and hot milk; could not use Graham bread. A course of special treatment was supplied to her about the first of January, 1890, but soon after commencing the treatment she had an attack of pneumonia. In due time the treatment was resumed, and then followed an attack of the epidemic influenza, or grip, so that, although the treatment was carried on at intervals during a year, there were but few occasions when our specialist had what he considered full control of the case. A year after the case was discharged the following communication was received:

February 15, 1893.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I should have written sooner, but I waited to see if there would be any return of my old disease. After suffering over eight years with severe chronic diarrhea, you have cured me; I have had no return of it for over a year. It is with gratitude I write to you to tell you the great good you have done me, for I

am sure I would have been in my grave before this had it not been for your treatment. My stomach troubles me very little any more. Occasionally I use a bottle of "Golden Medical Discovery" and a bottle of "Pellets." Hoping that the kind Father may spare your lives for many years to do good to suffering humanity, I am, Very gratefully yours, MRS. R. S. GWIN,

Peck's Run, Upshur Co., W. Va.

J. FLEENER, ESQ.

LIVER COMPLAINT, DYSPEPSIA, AND CONSTIPATION.

Cured by Home Treatment.

Received his first disability in the war; complains of getting very weak; bowels move only in three or four days; stomach so painful that nothing passes through it digested; back so weak cannot sit up; had the first attack of dyspepsia fifteen years ago, and has spent hundreds of dollars trying to get well; kidneys badly affected, urine highly colored, and burns in passing; has pains around the heart and fluttering sensations at times, says: "I am not able to travel; all the doctors have given me up as beyond medical aid."

Reports after two months' treatment: "I am happy to say that I am almost well; suffer with no pain in my stomach after eating; my appetite is good; my bowels move once a day and very often twice a day, and the urine is natural; do not have that dizziness in the head any more; rest well at night and feel rested in the morning. Have gained flesh all the time; weigh 178 pounds, and work every day on the farm. Have taken no medicine from any other physician, and give you and your medicine all the credit for the health I now enjoy. My wife has taken your "Golden Medical Discovery" for goitre (thick neck). She has taken it for about six weeks and she is getting better."

JOHN FLEENER, Brooklyn, Indiana.

DYSPEPSIA.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Your letter was received, and I am glad to say that I am perfectly well, and have been since I took your last medicine. I think I am better than I ever was, if such a thing could be. I am twenty pounds heavier than I ever was before, weighing 155 pounds. I have not had a pain or an ache since, for which fact I am thankful to you for looking after my case as promptly as you did, as, in looking over your catalogue of diseases, I thought that I had every thing ailing me that was in the book. I have told dozens if they were sick to call on you. With my best wishes, and hoping that all of your patients will receive as much benefit as I did, I remain,

Very truly yours,
GEORGE R. KENYON
Batavia, Ill.

G. R. KENYON, ESQ.

J. P. MCADAMS, ESQ.

DYSPEPSIA.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N.Y.:

Gentlemen—"A few of my symptoms were: Heartburn and fullness after eating, sometimes pain in my bowels, headache, poor appetite and bad taste in my mouth. At night I was feverish, with hot flushes over skin. After taking Dr. Pierce's Golden Medical Discovery I was relieved of all these symptoms, and I feel perfectly well to-day."

Very truly yours,
J. P. MCADAMS,
Elon College,
North Carolina.

OBSTINATE AND COMPLICATED DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Yours of July 12th to hand. I am only too glad to comply with your request. Having suffered for many years with a complication of diseases and feeling conscious that they were rapidly making serious inroads upon my constitution, and that I was speedily becoming unable and incapacitated to attend to my ordinary business, I resolved, after reading a number of testimonials from your patients, to place myself under your treatment at the Invalids' Hotel and Surgical Institute. With heart-felt gratitude I can truthfully say I am relieved of my trouble. I most cheerfully and earnestly recommend this Institution to all who are afflicted with chronic and painful diseases, no matter of what nature. During my stay there I saw some wonderful cures and surgical operations. Yours truly,

JOHN H. SMITH,
Deckertown, Sussex Co., N. J.

JOHN H. SMITH, ESQ.

COMPLICATION OF DISEASES.

ANDREW HOLES, ESQ.

Without solicitude or hope of pecuniary reward, with heart-felt gratitude and a desire to aid my fellow-man to health and happiness, allow me to state, that as an inmate for more than a month of the Invalids' Hotel and Surgical Institute at No. 663 Main Street, Buffalo, N. Y., I feel warranted in its highest recommendation. While there I saw and talked with a great number of people who came there as a last resort, to be cured of almost every chronic disease to which flesh is heir, and they were unanimous in their praise of the Institution and the skilled specialists who constitute its professional staff.

ANDREW HOLES,
Moorhead, Minn.

NERVOUS DEBILITY, DYSPEPSIA, KIDNEY AND LIVER DISEASE—CURED.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I take pleasure in informing you that the treatment you gave me for the relief of an affection of the spine and nervous system, disease of the digestive organs, kidneys and liver, has been entirely successful. I had feared that my health was gradually being undermined, prior to entering your institution, and I can testify to the perfect appointment that you have, the excellent apparatus for the administration of electrical and other massage treatment and baths. My relief was most satisfactory, and the cure has remained permanent.

I take pleasure in recommending your institution to the afflicted, believing that you have the very best treatment for chronic diseases known, and I have had an opportunity to satisfy myself, from conversation with other invalids in your Institution, of the care and skillful treatment that you administer, and its excellent effects. I believe that it is fully abreast of the times, and equal to any institution in the world. With many good wishes and thanks for my cure, I remain,

Yours truly,
B. V. WRIGHT.
Graniteville, Middlesex Co., Mass.

B. V. WRIGHT, ESQ.

PROLAPSING PILES (Hemorrhoids), ASTHMA, TORPID LIVER AND CONSTIPATION.

Cured at the Age of 62—Now 73 Years of Age—and Continues in Good Health.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Dear Doctors—It is with the greatest pleasure that I add my own experience to that of the many that you have cured. I am now seventy-three years of age, and enjoy very good health for my years, and as you can see by the photograph I send you, time has dealt very considerately with me so far as my activity and enjoyment of life are concerned. To this I feel that in large measure my thanks are due to you, for eleven years ago when I was sixty-two years of age you treated the pile tumors so successfully. They had been the source of greatest discomfort. I think that they were caused first by chronic diarrhea, which had troubled me many years prior to their appearance. I was also afflicted with asthma, torpid liver and constipation. These conditions produced in time some pile tumors that were the source of much suffering, and seemed to continually annoy me. As is usual with such difficulties, I believe, I would be free from discomfort for a time, and then the piles would get sensitive and irritable, come down at stool, and gave rise to severe pain that seemed to affect my general health. The nervous symptoms that resulted from their presence were such as to lead me to fear that I would break down in health unless they were relieved. From information obtained from others who had been relieved at your hands, I applied to your institution, and can thankfully assert that the tumors were permanently cured, as it has been eleven years since your specialist treated me, and I have had no trouble of the kind, and for an old lady I am pretty well. I had such good treatment and nice care at your institution that I cannot express in my testimony the thanks that I owe you. Wishing you every success in the treatment of others, and that you may be able to relieve the sufferings of many hundreds as you have mine, I remain, Very respectfully and thankfully yours,

MRS. PLUMMER.

MRS. MOSES PLUMMER, Groton, Caledonia Co., Vt.

BILIOUSNESS, CONSTIPATION, BAD COUGH.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Some twenty-five years since I was feeling very miserable all summer; I was very bilious; sometimes my bowels would not move once in sixty to seventy hours, and then almost impossible. I would take some bitters, which would help to move the matter, but as soon as the bitters were gone, I had to buy more or I would be as bad as before, and sometimes worse; but none of them appeared to do me any good except to move the bowels, until thirty years since a druggist called my attention to your "Golden Medical Discovery," and before I had taken half a bottle of the "Golden Medical Discovery," I felt much better, and by the time I had taken all, I could eat three hearty meals per day and had not felt so well for a long time. Soon after I was called to do a job some miles from home, and one night the old lady there was speaking about her daughter (Mrs. Brooks) who had been under the doctor's care for about five months and did not get any better, and I learned by asking a few questions that she had no appetite and no ambition to do anything. Then I told her what the "Golden Medical Discovery" had done for me. The next day the old lady drove down to her daughter's and got Mr. Brooks to send to Rutland, ten miles away, for two bottles of the "Golden Medical Discovery," and the next day when the doctor came and was about to take his leave, Mr. Brooks told the doctor he did not want him any more at present, and would send for him, if necessary. I saw the old lady about ten days later and her daughter was improving, and Mr. Brooks had great faith in the "Golden Medical Discovery," and had not sent for the doctor, but had gone to Rutland for more of the "Golden Medical Discovery." When I commenced taking the "Golden Medical Discovery" I thought I was going into consumption, as I had a cough for three years or more and my weight decreasing. My weight before taking the "Golden Medical Discovery" was 133 pounds; last March it was 147 pounds, and I give the credit to the "Discovery." GEORGE I. WILDER,

GEORGE WILDER, ESQ.

East Wallingford, Rutland Co., Vt.

LIVER DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I suffered greatly for thirteen years. Not one moment during that time had I rest from pain or weakness. I consulted six of our best physicians, taking medicines from each for a good long time. I became completely discouraged, as I had been many times before. A letter from the World's Dispensary Medical Association with questions to be answered, fell into my hands; these I carefully answered. As soon as a letter could go and come I received another saying I had the Liver-Disease. I could hardly believe it, for it had never entered my mind that that was my trouble. I read the pamphlet sent me in the next mail, describing my feelings much better than I could myself. I accepted their advice, strictly followed it. I found complete relief in taking the "Golden Medical Discovery." For years I could not ride a mile nor walk to my nearest neighbor's without feeling worse for it, and most of the time could not go at all. The day this picture was taken I rode eighteen miles, walking up and down two long hills. To the afflicted and discouraged I would say consult the World's Dispensary Medical Association; accept their advice, strictly follow it, and if there be help for you I believe you will find it in so doing.

MRS. BOSWORTH.

Respectfully yours,
MRS. HELEN C. BOSWORTH,
Money Creek,
Houston Co., Minn.

STEPHEN OGDEN, ESQ.

DYSPEPSIA,

And Other Complications.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—In reply to yours of the 7th instant, I would say that I can cheerfully recommend your medicines, as I have tried them and found them just as represented. I am enjoying splendid health at the present time.

Yours truly,
STEPHEN OGDEN,
Twin Mound,
Douglas Co.,
Kansas.

DYSPEPSIA AND CONSTIPATION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I have been troubled with dyspepsia and constipation for the last six years, and have tried all medicines that I could think of; and I got so low in health that I thought I would once more try the "Golden Medical Discovery" and Dr. Pierce's Pleasant Pellets. After taking it for three months I began to feel better, especially the gas and sour rising off my stomach at night. Formerly it was a terrible distressed feeling, could not rest nor sleep. I am very thankful to the World's Dispensary Medical Association, and thankful to God who put the great *power* in your medicine that cured me. I will say a good word for your medicines to all friends I meet. With many thanks, I remain,

Respectfully,
MISS M. A. ELIZABETH HELFER,
Moreton Farm, Monroe Co., N. Y.

MISS HELFER.

COMPLICATION OF DISEASES.

A Grateful Patient's Words of Praise.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

WILLIAM HENKEL, ESQ.

Gentlemen—Having been in your Institution as a sufferer from two distinct chronic diseases of years' standing, and having been placed under the charge of your specialists, I was speedily relieved of my afflictions. The Invalids' Hotel is a place as much like home as it is possible for such an institution to be. The physicians and surgeons are all expert specialists and thoroughly efficient; the nurses are very competent, attentive and kind; and, in fact, the whole *personnel* of the Invalids' Hotel endeavor to do their best to make the patients feel like being at home. I always felt while there as if I was one of the family. I gladly recommend your Institution to all persons who are afflicted with any kind of chronic disease, for from my own experience I *know* the professional staff will do all which they promise to do. Please accept my thanks for the speedy benefits and perfect cure of my diseases, and I think your Institution is worthy of the highest endorsement.

Yours truly,
WILLIAM HENKEL,
No. 1917 Congress Street,
St. Louis, Mo.

DYSPEPSIA AND GENERAL DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Having suffered for a number of years with dyspepsia, torpid liver and general debility, and having tried several physicians with little or no benefit, I resolved, as a last resort, to consult your specialists at the World's Dispensary. Being advised by them to use Dr. Pierce's Golden Medical Discovery, I did so, and after using several bottles, I feel entirely restored to health. Now, I take great pleasure in recommending your medicines to suffering humanity everywhere.

Yours very gratefully,
REV. A. H. MEVS,
Friar's Point,
Coahoma Co.,
Mississippi.

REV. A. H. MEVS.

"LIVER COMPLAINT."

J. GAUGHAN, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—When I commenced taking "Golden Medical Discovery," I was suffering badly from "Liver Complaint." I had been out of health for three years. I suffered terribly from "heart-burn," had bad coat on tongue, and was often troubled with diarrhea. Three bottles of the "Discovery" cured me. Had I not commenced taking it when I did, I should have been dead long ago. You have my heartfelt gratitude for my cure.

Yours truly, JAMES GAUGHAN,
Braidwood, Will Co., Ill.

P. S.—There are lots of people here whom I have recommended to use your "Golden Medical Discovery," and each and every one says it is a good medicine. One woman in particular, told me she was getting better every day by the use of your medicines.

J. G.

NERVOUS DYSPEPSIA.

MRS. TAYLOR.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I had a dead aching in my head and down the back of my neck and in my left ear, and my tongue was so stiff at night and dry, and I had no taste, or appetite to eat anything. I also had such a dead aching in the small of my back; it just felt as if I would break, and such aching between my hips. I had been having the "change of life," and if I worked hard I got a pain between my shoulders and a kind of aching in the abdomen. I doctored a good deal and never got any relief. I was very nervous. I took two bottles of Dr. Pierce's Golden Medical Discovery and two of his "Favorite Prescription," and I am perfectly cured.

MRS. ELLEN TAYLOR,
Clarion, Clarion Co.,
Pennsylvania.

REV. PROSSER.

DYSPEPSIA.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Dear Sirs—I was a great sufferer from dyspepsia, and I had suffered so long that I was a wreck; life was rendered undesirable and it seemed death was near: but I came in contact with Dr. Pierce's Golden Medical Discovery and "Pellets." I took twelve bottles of the "Discovery," and several bottles of the "Pellets," and followed the hygienic advice of Dr. Pierce, and I am happy to say it was indeed a cure, for life is worth living now. A thousand thanks for your treatment.

I enclose my photo.

Yours respectfully,
REV. CHAS. PROSSER,
Mount Carmel,
Northumberland Co. Pa.

LIVER DISEASE.

MRS. WINTER.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Dear Sirs—It is with pleasure that I tell you what your "Discovery" has done for my mother. She was in poor health for a long time, coughing and weak, and thought she had consumption; she had such palpitation of the heart and could not rest at night because of the palpitation sometimes, and then the right arm pained her so at times that she hardly knew what to do; if we would put on hot applications, it would drive it to the heart, and the doctor did her no good; so finally, as a last resort, we happened to get hold of some of Dr. Pierce's pamphlets and were constrained to write to him and send a small bottle of urine for examination. He immediately wrote back, saying it was liver trouble, and to take the "Golden Medical Discovery" according to directions. She took it for two months, when the pain in her arm gradually left her and she could comb her own hair, and began to be more cheerful, for she was melancholy before. The palpitation grew less and less, and she rested at night, and is now doing her own work for a family of five, and is sixty-one years old.

I have taken delight in recommending to others this wonderful medicine for heart and liver trouble; she took a dozen bottles to effect the desired end.

Respectfully yours,
MISS LU WINTER,
Dakota, Winona Co., Minn.

TORPID LIVER, SUPPRESSED MENSTRUATION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I had suffered so much for years from "Liver Complaint" that I did not care whether I got well or not, but my husband urged me to take your "Golden Medical Discovery." I had not had my courses for six months; after I had taken your medicine about two months, I was well.

MRS. FITZGERALD.

When one of my daughters with a baby two weeks old was in so much pain that she could not rest day or night, I went to her as quickly as I could, and commenced giving her your "Favorite Prescription." The next morning the pains were all gone. She said, "oh, mother, I would have died if you had not come. I do feel so good." Your medicine makes people feel like they wanted to live. There is a woman at Verdi who had several children who died with consumption of the bowels and *chronic diarrhea*. She had another one who was going the same way. The doctor said it was bound to die. I went there and gave it five drops of Dr. Pierce's Extract of Smart-Weed, and increased the dose every time its bowels moved, until I got to a half teaspoonful. The next morning the child was almost well. That woman says I saved her baby's life.

I could write a week and not tell half the good your medicines have done through my hands. Two weeks ago, a young man at my house was taken with *cholera morbus*. He thought he was surely going to die, but as quickly as I could get some hot water, I put hot applications on his stomach and bowels, and gave him a few doses of your Extract of Smart-Weed. He got well immediately.

MRS. MARY ISABELL FITZGERALD,
Reno, Washoe Co., Nev.

LIVER DISEASE AND NERVOUS DYSPEPSIA.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I was weak, nervous, dizzy, with a fainting sensation when walking; could not walk any distance, always feeling hungry but always felt bad; after eating felt as though my victuals were sticking in my throat; could not rest well at night; I was not well all winter. In 1891 took sick and quit work; in March doctored with three different doctors with very little benefit for a good deal over a year, then began taking your "Golden Medical Discovery." Took ten bottles of that, and one bottle of your "Pleasant Pellets," and steadily improved all the time I was taking your medicine and have worked all this summer; did not work for two years.

My case was liver disease and nervous dyspepsia of which your medicine has cured me, for which receive my sincere thanks.

Respectfully yours,
ISRAEL RHUE,
Morrisdale Mines, Clearfield Co., Pa.

I. RHUE, ESQ.

TORPID LIVER.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—From early childhood I have suffered from a sluggish liver with all the disorders accompanying such a condition. Doctors' prescriptions and patent medicines I have used in abundance; they only afforded temporary relief. I was recommended to try Dr. Pierce's Pleasant Pellets. I did so, taking three at night and two after dinner every day for two weeks. I then reduced the dose to one 'Pellet' every day and continued this practice for two months. I have in six months increased in solid flesh, twenty-six pounds. I am in better health than I have been since childhood. Drowsiness and unpleasant feelings after meals have completely disappeared.

Respectfully yours,

John A. McBarry

U. S. Inspector of Immigration, Buffalo, N. Y.

MRS. MCDANIEL.

LIVER DISEASE, CONSTIPATION.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—I enclose you my photograph as you requested; also, state that I have taken your "Pellets" and "Golden Medical Discovery" for chronic "liver complaint" attended with constipation of the bowels, and after using six bottles of "Discovery" and same of "Pellets," I am greatly benefited. You can use my name in advertising your medicines and I can warrant them to do all you claim for them.

Respectfully yours,
Mrs. M. F. McDANIEL,
Bee Branch,
Van Buren Co., Ark.

TORPID LIVER, DYSPEPSIA, NERVOUS AND GENERAL DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Dear Sirs—Having suffered severely, for a long time, from a torpid liver, indigestion, constipation, nervousness and general debility, and finding no relief in my efforts to regain my health, I was induced to try your "Golden Medical Discovery" and "Pleasant Pellets." Under this treatment I improved very much, and in a few months was able to attend to my professional duties.

I now feel very grateful for the benefits I have received from the use of your valuable medicines, and recommended them to many of my friends and neighbors.

Respectfully yours,
J. F. HUDSON,
Witcherville, Sebastian Co., Ark.

J. F. HUDSON, ESQ.

"TROUBLESOME COMPLAINTS."

MISS CHENEY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663 Main Street, Buffalo, N. Y.:

Gentlemen—After using five bottles of Dr. Pierce's Golden Medical Discovery, four bottles of Dr. Pierce's Favorite Prescription, and about half-a-dozen packages of his "Pellets," I am convinced that I am thoroughly cured of that dread disease, known as dyspepsia, and other troublesome complaints.

Very sincerely yours,
MISS HATTIE L. CHENEY,
Sac City,
Sac County, Iowa.

LIVER AND KIDNEY DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Your kindness to me I can never forget. I cannot express half my feelings of gratefulness to you. I had despaired of ever getting well.

MRS. RAY.

I had been in bad health twenty years—liver and kidneys, all out of order and aches all through me; numb hands and cold feet. Everything I ate distressed me, bowels constipated, was very nervous, depressed and despondent; in fact I can't express half my bad feelings to you. When I first wrote to you, I thought I would not live to get an answer from you.

I have taken twenty bottles of "Golden Medical Discovery" and "Pellets." My health is now very good. You have my honest recommendations to all sufferers.

Thankfully yours,

MRS. REBECCA RAY,

DeAnn, Hempstead Co., Ark.

LIVER AND KIDNEY DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I was for years hardly able to go about. I suffered from liver and kidney trouble, six different Doctors treated me during that time but could do me no good. I give your "Medical Discovery" the praise for my cure.

Then, too, my wife had a bad case of Asthma which was cured by the use of that wonderful blood-purifier.

Yours truly,

GEO. W. SWEENEY,

Haydentown, Pa.

G. W. SWEENEY, ESQ.

TORPID LIVER.

MRS. BRANSFORD.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I can truthfully say that I believe your "Golden Medical Discovery" saved my life. When I began your treatment two years ago, I had been given up by the Doctor, and my friends had lost all hope of my recovery. I had suffered for years with torpid liver; I had chronic pleurisy and catarrh in a very bad form, attended with hemorrhages—was confined to my bed two months. In a few days after beginning your medicine I could perceive a slight change for the better; in three months I felt almost like a new person.

Yours very gratefully,

MRS. MAGGIE E. BRANSFORD,

Williamsburg, W. Va.

DYSPEPSIA, UTERINE DISEASE.

MRS. MARTIN,

MRS. J. A. MARTIN, of *Cleburne, Texas*, had not had good health since the birth of her child, eight years before; had a headache with burning and throbbing sensations; and a hurting in her stomach; there was a dead aching and gnawing or drawing of the stomach as she described it; sharp pain in the stomach extending to her right breast and shoulder. Weighed in health 125 pounds, but was reduced to 95 pounds; was weak; could scarcely walk at all, was sick at stomach a great deal; when her monthly sickness came on had much pain and the sickness of the stomach remained until menstruation stopped. She writes:

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—"I have taken about six bottles of your 'Golden Medical Discovery' and 'Favorite Prescription,' and am glad to say that I feel better and stouter than I have felt in a long time. I can work all day now and not be tired at night. My head don't trouble me now. When I commenced the use of the medicine I weighed 89 pounds, and to-day I weigh 98 pounds. I feel better than I have for months."

DYSPEPSIA AND CONSUMPTION.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—I was not able to do my work for nearly two years, and I tried four different doctors and grew worse all the time. Then I began on your medicine and took twelve bottles of "Golden Medical Discovery" and one of "Favorite Prescription," and am able to do my work and feel as well as I have felt in years. Physicians called my disease Dyspepsia and Consumption.

Respectfully yours,

MRS. R. FERGUSON,
Ink. Shannon Co., Mo.

MRS. FERGUSON.

DYSPEPSIA, COSTIVENESS.

MRS. WICKLINE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I suffered a great deal with headache and dizziness in my head and costiveness. My food would sour on my stomach and I would spit it up. I also suffered with my back a great deal; in fact, I was entirely broken down. Had different doctors but none seemed to do me any good and I began to take your medicine—the "Golden Medical Discovery."

I have been enjoying better health since I have taken your medicine than I had for years before. I have recommended it to my friends; I believe it to be the best medicine in the world. My sister has taken more of your medicine than I have; her husband has also taken it; she thinks there is no medicine in the world so good as Dr. Pierce's.

Yours truly,

MRS. MAGGIE WICKLINE,
Box 95, Pulaski City, Pulaski Co., Va.

DYSPEPSIA OF FIFTEEN YEARS.

MRS. STRAWDERMAN.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Dr. Pierce's Golden Medical Discovery and "Favorite Prescription" cured me of dyspepsia after fifteen years' suffering. I doctored a great deal without receiving any benefit. About four years ago my attention was called to Dr. Pierce's Favorite Prescription, which was highly recommended for dyspepsia and I used three bottles of "Prescription" and eight bottles of "Golden Medical Discovery," and they have done me more good than all other medicines I ever used.

Yours truly,
MRS. ANGELINE STRAWDERMAN,
Philippi, Barbour Co., W. Va.

DYSPEPSIA, SHORTNESS OF BREATH.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I was in bad health when I commenced your treatment; I was troubled with my stomach, and with shortness of breath. Everything I ate distressed me. I lost flesh and strength and became very nervous and despondent. I took eight bottles of "Golden Medical Discovery," and six bottles of "Pellets," and they cured me.

I would advise all suffering people to go under your treatment.

Respectfully yours,
WRIGHT GOODWIN,
Gaylord, Beaufort Co., N. C.

W. GOODWIN, ESQ.

DYSPEPSIA IN ITS WORST FORM.

E. DIETERLY, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Only those who have had dyspepsia in its worst forms know what it really can be. What such a case needs I have found in your kindly encouragement, and your "Golden Medical Discovery."

Although I can now claim, if any one can, that I have a cast iron stomach, I always keep your "Golden Medical Discovery" and the "Pellets" on hand when settling down from an active summer's vacation, to quiet student life.

I heartily recommend these medicines to every one whose suffering is of the nature that mine was.

Yours truly,
ERVIN DIETERLY,
Gettysburgh, Pa.

DYSPEPSIA AND "FEMALE WEAKNESS."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

MRS. HUTCHINSON.

Gentlemen—Words fail to describe my sufferings before I took your "Golden Medical Discovery" and "Favorite Prescription." I could not walk across the room without great suffering, but now I am able to do my own work, thanks to your wonderful medicines, I am a well woman. I suffered all the time with a weight in the bottom of my stomach, and the most severe bearing-down pains, low down, across me, with every step I attempted to take. I also suffered intense pain in my back and right hip. At times I could not turn myself in bed. My complexion was yellow, my eyes bloodshot, and my whole system was a complete wreck. I suffered greatly from headaches, and the thought of food would sicken me. Now I can eat anything, and at anytime. My friends are all surprised at the great change in me. Every one thought I would not live through the month of August. Two of my neighbors are using your medicines, and say they feel like new beings.

Truly yours,
MRS. ANNIE HUTCHINSON,
Cambridge, Dorchester Co, Md.

INDIGESTION AND NERVOUSNESS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

MRS. LIVINGSTON.

Gentlemen—I am a woman of fifty-six years of age. Had been troubled with Indigestion for three years, which, I think, resulted from "change of life" and overwork. An eminent physician informed me I had no organic disease. But I had distress after eating and was troubled with gas in parts affected, an unpleasant taste in my mouth in the morning. I was weak and nervous and had to live on a very light diet. After taking your "Golden Medical Discovery" I was relieved of these symptoms. I believe the results warrant me in recommending it to others.

Yours respectfully,
MRS. CHARLES LIVINGSTON,
Livingston,
Grant Co., Wis.

INDIGESTION AND TORPID LIVER.

E. M. SEAVOLT, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I can heartily recommend your "Golden Medical Discovery" to any one who is troubled with indigestion and torpid liver; I was that bad it was about chronic with me. All the other medicines could give me no relief; but at last, what came to my relief was that wonderful medicine, the "Golden Medical Discovery." I could scarcely eat anything—it would put me in terrible distress in my stomach; I had a dull aching and grinding pain in my stomach with pain in my right side and back, and headache, bad taste in my mouth; at night I was feverish and the soles of my feet burned.

I took four bottles of the "Discovery" and two vials of the "Pellets." I am well and hearty and can eat as well as any body can,—thanks to your "Discovery."

Yours truly,
E. M. SEAVOLT,
No. 427 Sandusky St.,
Mount Vernon, Knox Co., Ohio.

DISEASE OF STOMACH.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Yours of the 4th instant was duly received. I take great pleasure in recommending to the public your system of home-treatment for chronic diseases. I am thankful to say I am in perfect health and have worked every day since I last wrote to you and have not taken a particle of medicine of any kind and am weighing about one hundred and eighty pounds. I have taken your "Golden Medical Discovery" with very satisfactory results, and "Pleasant Pellets" also.

Yours respectfully,

ARTHUR LEWIS,
Schoharie, Schoharie Co., N. Y.

A. LEWIS, ESQ.

RHEUMATISM.

What a Minister Says. Cured for $4.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

REV. W. WILLIAMS.

Gentlemen—In the fall of last year I suffered from rheumatism in my left shoulder and elbow. I tried a great many remedies, recommended to me by friends, but they all failed to afford relief. From that time I began Dr. Pierce's Golden Medical Discovery, until I felt that I was cured, was a period covering four or five months. While the attack lasted, I suffered a great deal, and could not dress or undress myself. Although I am 73 years old, I now regard my health as splendid. I had spent a great deal of money previously, in various kinds of medicine, but the "Discovery," from the day I commenced until I was well, cost only FOUR DOLLARS.

Accept my gratitude, and I beg to subscribe myself,

Sincerely yours,
Rev. WILSON WILLIAMS,
Trinity Station, Morgan Co., Ala.

HEADACHE AND CONSTIPATION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I suffered from loss of appetite, constipation, neuralgia, and great weakness, and had terrible attacks of sick headache very frequently; also nose bleed. My health was so poor that I was not able to go to school for two years. I took Doctor Pierce's Pleasant Pellets and "Golden Medical Discovery," and in a short time I was strong and well. Many friends are taking your medicines seeing what they have done for me.

Respectfully yours,

MISS BERTHA WOLFE,
Markham, Cattaraugus Co., N. Y.

MISS WOLFE.

MR. S. BAKER, SR.

AS LIVER PILLS,

Nothing Can Compare with Dr. Pierce's Pleasant Pellets.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

There is nothing that can compare with Dr. Pierce's Pleasant Pellets, as Liver Pills. They have done me more good than any other medicine I have ever taken.

Respectfully yours,
SAMUEL BAKER,
No. 161 Summit Ave.,
Phillipsburgh, N. J.

ULCERATION OF BOWELS.

Severe Bleeding.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—My friends said I would never be any better, for I had ulceration of the bowels. By the time I had taken a bottle and a half of Dr. Pierce's Golden Medical Discovery, the bleeding had almost stopped. My appetite was good, nothing seemed to hurt me that I ate. My improvement was wonderful. Several years have passed and my cure is permanent.

Yours respectfully,
Mrs. AURELIA VANZILE,
Hamilton, Ind.

AURELIA VANZILE.

BILIOUS ATTACKS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

I. C. SEELY, ESQ.

Gentlemen—Nine years ago I was taken with severe pains in my stomach and bowels which the usual home remedies failed to relieve; after several days it passed off, leaving me very sore and weak but in the course of a few weeks it came on again. I called in a doctor—he treated me for biliousness; I occasionally went several months without any attack and then it would come more severe than ever; I could scarcely bear the weight of my clothes on my stomach and bowels. I grew thin, weak and despondent,—could do no work without bringing on terrible pain. Doctors treated me for catarrh of the head and stomach, indigestion, dyspepsia, but all was of no avail; the suffering gradually increased in severity and I despaired of any relief.

In 1892 I had a spell that was so severe I cramped from feet to neck. The Doctor said I must die—he couldn't do any thing for me. After about five weeks in bed I could again sit up, but the pain had settled in my right groin and limb. Relatives persuaded me to try "Golden Medical Discovery." Two thirds of the bottle was gone when I felt a change for the better; I had one very light attack after the first bottle; that has been seventeen months ago and I have had no more trouble. I have taken ten bottles of Dr. Pierce's Golden Medical Discovery and I am now well and able to support my family.

To any one with stomach and bowel trouble I will recommend Dr. Pierce's Medicine. I am never without it in the house.

I remain, yours,
I. C. SEELY, Lindsborg,
McPherson Co., Kans.

DYSPEPSIA—CONSTIPATION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

MRS. A. L. PIERCE.

Gentlemen—Three years ago I was suffering from constipation, distress in the stomach, bowels, feet and ankles bloated, kidney and heart trouble, loss of appetite, bad taste in the mouth, sour risings in the stomach, and indigestion. I was under the treatment of three physicians seven months. One gave me up to die. This was my condition when I was prevailed upon to take Dr. Pierce's Golden Medical Discovery and "Pleasant Pellets." I am well, your medicines have cured me permanently. Had I the power and language to herald to the whole world the good qualities of your medicines, I would most gladly do so, as they have saved my life and brought health and happiness to me. Yours most sincerely,

MRS. A. L. PIERCE,
Stillwater, Penobscot Co., Me.

SORES IN MOUTH DUE TO INDIGESTION.

CHAS. KELLOGG TURNEY, ESQ., a prominent contractor and builder, also well known as one of the accomplished singers at the Chautauqua Assembly, and who does business at *Room 6, Bernard Block, Collinwood, Cuyahoga County, Ohio*, writes:

"I was troubled with little watery blisters which would form on the under side of my tongue, and which proved very sore and troublesome. Becoming alarmed at the frequency of their appearance, and having much faith in Dr. Pierce and his associates, I wrote to them for advice. They recommended me to take Dr. Pierce's Golden Medical Discovery, which I did, and after using two bottles my trouble entirely disappeared."

C. K. TURNEY, ESQ.

GAINED THIRTEEN POUNDS; CATARRH OF STOMACH.

MISS ANGUISH.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Two years ago I was pale and emaciated, food fermented in my stomach. A physician pronounced my case "Catarrh of the Stomach," but he could not help me. I lived a month without solid food and when I tried to eat I would vomit. At this time I began taking Dr. Pierce's Pleasant Pellets, and in two weeks I was decidedly better. I am now in good health, and never felt better in my life. I have a better color, eat more, and have no distress after eating—having gained thirteen pounds since I began taking them.

Yours respectfully,
MISS MARY ANGUISH,
Glen Eaton, Marshall Co., W. Va.

T. L. HALL, ESQ.

CHRONIC DIARRHEA—DYSPEPSIA.

THOMAS L. HALL, of *Creek, Westmoreland County, Pa.*, had chronic diarrhea, which his physician called dysentery. He had been troubled more or less for five years; had very severe attack fifteen months before writing us; had not been able to work steadily for twelve months. Food sometimes passed undigested; some days had three to six passages; had watery and sour risings from the stomach; backache; was drowsy upon rising in the morning; pain about the heart; itching all over body and limbs. He had three months' treatment at home—the special medicines being sent him by express. He writes that he "was greatly benefited by first week's treatment," but continued and "in three months was entirely well."

R. MANSON, ESQ.

DYSPEPSIA—LOSS OF FLESH.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663 Main Street, Buffalo, N. Y.:

Gentlemen—Three years ago I commenced taking Dr. Pierce's Golden Medical Discovery; I weighed 140 pounds, and now I weigh 175 pounds, so you see how I have gained in health and weight. Dr. Pierce's Pellets are the best pills I ever took for the liver. All my friends say they do them the most good.

Respectfully yours, ROBERT MANSON,
West Rye, Rockingham Co., N. H.

MRS. LUKE COOK.

TERRIBLE DYSPEPSIA CURED.

MRS. LUKE COOK, of *Grove, Newaygo Co., Michigan*, writes:

"I had been ill for five years. My symptoms were pain in the stomach and bowels; could eat nothing but stale bread and tea or coffee. Meat and vegetables passed through the bowels undigested in about two hours, causing great pain. I was all "run-down." Tongue looked like a piece of raw meat. One doctor pronounced my case cancer of the stomach. I took treatment from five different physcians with but very little benefit—only temporary relief. I got so weak I could scarcely walk around, and suffered terrible agony. After taking fifteen bottles of Dr. Pierce's Golden Medical Discovery, I am well and able to do my own work, and frequently walk two miles and back the same day. I am now sixty-eight years old."

INDIGESTION, CATARRH, AND NERVOUSNESS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663 Main St., Buffalo, N. Y.:

Gentlemen—For a long time I was suffering from indigestion, catarrh and nervousness. I was so run down that I could not go to school, and, as the various remedies I tried did me no good, I applied to you, and was advised to try a course of special treatment. After taking only two months' medicines from your noble institution, I feel perfectly restored to health. I have, moreover, recovered my lost flesh, and I am pleased to say need no further medicines.

Yours truly,
E. A. BALDWIN,
Proctorsville, Windsor Co., Vermont.

E. A. BALDWIN, ESQ.

GENERAL DEBILITY, MALARIA, SICK HEADACHE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I am happy to say that your valuable medicine has been a great benefit to me. I was suffering from general debility, malaria and nervous sick headaches, and after my third child was born (a beautiful baby boy of ten pounds) I only recovered after a long illness; I barely gained strength enough in two years' time so that I was able to crawl about to accomplish the little housework that I had, by lying down to read many times each day; had sick headaches very often; and many pains and aches, all the time complaining of getting no better. I finally asked my husband to get a bottle of Dr. Pierce's Favorite Prescription, which he promptly did. After I had taken one bottle I could see a great change in my strength, and fewer sick headaches.

MRS. J. H. LANSING.

I continued taking the medicine until I had taken eight bottles—seven of the "Favorite Prescription" and one of the "Golden Medical Discovery." For some time past I have not used it, but I am now able to do the housework for myself, husband and two children (aged nine and five years). I also take in dressmaking, and enjoy walking a mile at a time, and I think it is all due to the medicine, for I know I was only failing fast before I commenced to take it. I take great pleasure in recommending the "Favorite Prescription" to all women who suffer from debility and sick headache.

Respectfully yours, MRS. J. H. LANSING,
South Glens Falls, Saratoga Co., N. Y.

MALARIAL FEVER.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—My little girl, eleven years old, took malarial fever and lay 22 days in fever. Our family doctor was tending her twice a day; she got no better; I sent unbeknown to the doctor and got one bottle of Dr. Pierce's Pellets, and one bottle of his "Golden Medical Discovery,' and commenced to give them to her as directed; after taking the medicine three days, the fever began to go down, and the doctor came in and said: "what's the matter?" "Ida, you have no fever this morning," and laughed. Then I told him I had been giving Dr. Pierce's medicines. He didn't say a word—he was beaten. My oldest daughter is improving by taking Dr. Pierce's Favorite Prescription.

Yours respectfully,
MRS. ELIZABETH MCCONELL,
Payne, Paulding Co., O.

MISS MCCONELL.

GENERAL DROPSY.

Tapping and Medication Conquers the Disease after it had run 22 Years.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I wish to acknowledge that you have cured me of the worst dropsy that ever came within my knowledge, it having afflicted me twenty-two years. After I had suffered much from other surgeons without any cure being effected, and with only relief for a short time, you performed a not only painless but very scientific operation, and with medicine completed the cure. It is now five years since you treated me and no symptoms of the disease have shown themselves. I will also add that while with you at the Invalids' Hotel I received the best of care and attention from the well trained nurses in your employ, for all of which I feel grateful.

E. L. WATERS, ESQ.

With respect and best wishes,
EDWIN L. WATERS, Athol Centre, Mass.

REDUCED TO A SKELETON.

Chronic Diarrhea—Dyspepsia Cured by Two Months' Special Home-Treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

J. T. YERBY, ESQ.

Gentlemen—To all sufferers from chronic diseases I want to say that I suffered for six years, and was under fourteen different doctors in city and country. They could not reach my case; I was given up to die; my sufferings were *indescribable;* I could not retain food on my stomach; could not control my bowels at times; suffered great pain; could not sleep at night; I was reduced to a *skeleton;* in health I weighed 180; then only 111; I now weigh as much as I did before I was sick. I am sixty years old, but feel young and active; I owe it to the medicines you sent to me. After taking it two months I was out of bed attending to my work; my friends could hardly believe it was I when they would meet me out away from home. I consider my cure as almost miraculous.

Respectfully,
JOS. T. YERBY,
White Stone,
Lancaster Co., Va.

CHRONIC DIARRHEA.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—It is now nine years since I was afflicted with the above disease, which reduced me to a mere skeleton, and my friends had very little hope of my recovery. After trying different doctors, and many other remedies for a year, from which I received little or no benefit, I was advised to try Dr. Pierce's special treatment, which I did, and after two months I was a well, strong, healthy man, and have been ever since.

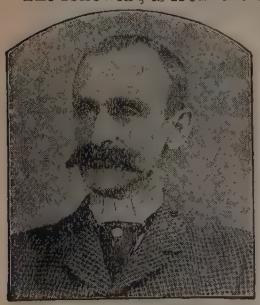
Yours, etc.,
ISAAC G. HAMILTON,
Baie Verte,
Westmoreland Co., N. H.

I. G. HAMILTON, ESQ.

DYSPEPSIA OR INDIGESTION.

Kidney Disease and Rupture.

The following is from the widely-known and popular proprietor of the Kingsley House at Ashuelot, N. H.: "It may seem useless to add testimony to the overwhelming mass already given of the many remarkable cures performed at your Institution, but I deem it a pleasure and a duty to add mine to your long list as *very remarkable*. I had a rupture of twenty-seven years' standing, with hemorrhage of the kidney for six months, preceding my visit to your Institute, and was also troubled badly with indigestion, all of which ailments had reduced me in strength and flesh to a mere skeleton. Had been treated by many local physicians, who failed to do me any good. I could walk but a very short distance when I left my home on the 8th of July, 1892, for treatment at your Institution, with but little faith or hope of ever being any better. But through your skillful treatment I was able to return to my home on the 9th of August, 1892, and consider myself permanently cured, having had to take no medicine since. Considering my case *almost a miracle*, I cannot speak too highly of your Institute and skillful treatment, to which I feel that I am indebted for my continued existance. You are at liberty to refer to me, and to use this as you see fit.



A. N. KINGSLEY, ESQ.

Very respectfully,
A. N. KINGSLEY,
Ashuelot, Cheshire Co., N. H."

DYSPEPSIA, RHEUMATISM, NERVOUS PROSTRATION, SLEEPLESSNESS.

J. T. TOWNSEND, ESQ.

Mr. J. T. TOWNSEND, of *Noah, Coffee County, Tenn.*, consulted us by letter. He was suffering from great nervous prostration; could not walk without tottering; was troubled greatly with inability to sleep; poor appetite; did not relish food; suffered much pain and stiffness in the joints; was overcome with heat working on a thresher, followed by persistent nausea, confusion of ideas, his memory being very defective.

After taking a single course of treatment, the medicines being sent by express, he writes as follows: "The medicine you sent me lasted me five weeks, and proved very beneficial indeed. I believe it, under God, was the means of saving me from a permature grave. When I received the medicine, I had just gotten rid of an attack of bilious fever, which left me in a deplorable condition. I was very week and nervous, but my improvement commenced with the first dose of your medicine, so by the time my medicine was out I felt better than I had for years, and now have no indication of a return of my trouble." A month later he writes: "I continue to enjoy the most perfect health. Every organ of my body, and every faculty of my mind, is in splendid condition, which makes life worth living. I have gained twenty-one pounds since I have been able to attend to business. Please accept my profound thanks for your promptness in sending me my medicines."

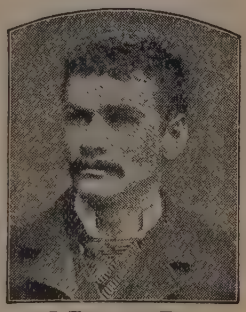
NERVOUS DEBILITY.

Piles, Catarrh, Heart Symptoms.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—The effect of your remedies is little short of a miracle. My general make-up and appearance are astonishing; my cheeks rosy, eyes bright, circles nearly all gone from under eyes; am fleshier, stronger, more active, and an entirely different man. No piles, catarrh, heart trouble; no chills and fever; no despondency, no anything.

Yours truly,
JOHN TALBOTT,
Pennsylvania Agricultural Works,
York, York Co., Penn.



J. TALBOTT, ESQ.

B. EBERHARDT, ESQ.

DYSPEPSIA AND CATARRH

Cured by Special Home-Treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I am happy to inform you that my catarrh and dyspeptic symptoms have all vanished. I am no longer troubled with headache and stoppage of the nose, my stomach is in good order, and I enjoy three hearty meals daily without any bad feelings.

I have gained in almost every respect, particularly in weight and strength, since beginning the use of your specially prepared medicines. By continuing to follow your special hygienic rules, I believe no relapse will occur. Yours respectfully,

BERTHOLD EBERHARDT,
N. E. Cor. 10th, and Callowhill Streets,
Philadelphia, Pa.

INDIGESTION, CONSTIPATION, AND UTERINE DISEASE.

MISS JOSLYN.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Some months ago I consulted your specialist concerning my health, which had at that time become very much impaired from the effects of uterine disease, indigestion and chronic constipation. I was also troubled with frequent attacks of nervous headache which rendered me very miserable. A line of treatment was outlined by your specialist, which I followed closely, and I immediately began to improve under the use of the medicine advised. The benefits were so marked that within two or three months I was able to discontinue the use of the medicine, and have since that time been enjoying good health. I attribute my cure to the use of your medicines, and I heartily thank you for the benefits received, as well as for the kind attention given me by your specialist.

Respectfully yours,

IDA M. JOSLYN, Groton, Conn.

CHRONIC BRONCHITIS AND DYSPEPSIA.

A. ROSENBERGER, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Several years ago I spent many dollars for medicine, but in vain, and expected to die with consumption. But hearing of your Invalids' Hotel and Surgical Institute, I visited you.

To your advice and treatment I owe my life and present good health.

Hoping that you and your eminent faculty may be spared many years to cure the afflicted, I send you my best wishes.

Yours truly,

ALBERT ROSENBERGER,
La Otto, Noble Co,, Ind.

EVEN THE AGED FIND RELIEF.

Torpid Liver, Constipation.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

Gentlemen—It is with pleasure that I can testify to your skillful treatment of my case. My disease was caused by overwork, and exposure which brought on a severe sickness, so that I never recovered my former health. I suffered for years with constipation and torpidity of the liver which resulted in irritation of the prostate, and in the end resulted in inflammation of the bladder, commencing with burning sensation in the urethra, and a feeling of heat and weight in that region. Gradually these sensations kept increasing for many years; all this time my bowels became more and more constipated, and caused me such pain that I was forced to take strong purgatives to get relief.

H. R. SNYDER, ESQ.

You can comprehend my sufferings, nervousness, and debility from want of rest and comfort. In this condition I tried a number of physicians without benefit, and I became very despondent; but finally determined, as a last resort, to place myself under your care. But before doing so, I first called at your place and had a talk with you, to see if you could tell me what my troubles were. And after looking over your establishment, I came to the conclusion that if I could not get any relief at your Institution it would be of no use to look any further, and I made up my mind to that effect.

On my return home, I had a talk with my family doctor—that I was going to give your Institution a trial, and he advised me to do so. I had some fears

when I first entered your Institution, as my age was against me—being in my 87th year, but, gentlemen, I feel grateful to you for the great benefits I received as a result of your skillful treatment of my case.

H. R. SNYDER, Johnstown, Fulton Co., N. Y.

J. SMITH, ESQ.

NERVOUS DYSPEPSIA.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—For over twelve years I was a great sufferer from nervous indigestion and acidity of the stomach. I tried some of the best doctors, both in England and this country, but did not find permanent relief until I went to the Invalids' Hotel and Surgical Institute. The medicine prepared for me by the specialist at this famous institution was so effectual that I feel that I am perfectly cured.

I cannot speak in too high praise of the Invalids' Hotel and Surgical Institute. The Staff of Physicians is skillful and of large experience, and the institution itself, in all its appointments, excellent and in advance of the age. I highly recommend it to all the afflicted, feeling confident that all the benefit to be derived from medical or surgical treatment can be had at that institution.

JOSEPH SMITH,
No. 200 Eighth Street, Olean, N. Y.

BAD CASE OF DYSPEPSIA,
Cured by Special Home-Treatment.

MRS. JOHNSON.

Mrs. JOHANNA JOHNSON, of *Big Springs, Union Co., South Dak.*, forty-six years old. A pain began in the stomach, a sort of cramp; extended to the chest, shoulders and arms, also affecting the spinal column opposite the location of pain; had a hard lump that felt like lead in the pit of her stomach. Pain was brought on sometimes by eating something that at other times she could eat with impunity. Attacks of pain lasted usually about three days. After the pain would leave, she was weak and sore. Sometimes attacks would come on every day.

Had two months' special treatment.

Reports five months afterwards as follows: "Since taking your medicine, I am a new person; at least I feel so. I have used only one-half of the last set of medicines, and think I will not need to continue. A lady similarly afflicted is trying some of my medicine, and will order from you direct. I am glad to know where to direct the sick, and where the most good can be had for one's money. I am feeling well, and can work as formerly."

INDIGESTION AND CONSTIPATION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

O. F. SINIGAR, ESQ.

Gentlemen—I was troubled with chronic indigestion and constipation. Had to be constantly taking physic, and finally was compelled to resort to hot water injections regularly to move my bowels. This got to be a great drudge to me. I took treatment from the leading physicians of this part of the country for my stomach and bowel troubles, and spent over one hundred dollars in this way, but they did me no good whatever. I got so bad that I began to think my time on earth was short, and did not care if I lived or died. I had to stop work; everything was a burden to me, until at last I tried your Institution. I went there, and you said you could help me, and those words sounded so good to me, as I thought I never could get well again. After taking your special home-treatment for five months, I was in the enjoyment of perfect health. This was two years ago, and ever since my bowels have moved regularly, and I have not taken any medicine to make them move. I cannot find words in which to express my sincere thanks for the almost immediate relief I received from your specialists, and will say I am now enjoying the very best of health.

Yours with respect,

ORWIG F. SINIGAR, No. 71 Feather St., Canton, Ohio.

FISTULA IN ANO, PILES, PROLAPSE OF RECTUM.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—For more than twelve years I have been a sufferer with a complication of rectal troubles; pile tumors, prolapsus and fistula in Ano. I have been under the treatment of our most skilled practitioners, by ligature, carbolic acid, constitutional treatment, change of climate and the celebrated Brinkerhoff treatment, and also tried all of the local guaranteed nostrums, from all of which I have been only temporarily relieved. The old troubles would in a short time return, and with seemingly renewed vigor. With fast failing health and terrible nerve prostration, I left home the 1st day of October last, to take a two weeks' trip, hoping for some temporary relief. On the trip I stopped over at Buffalo, and having several years before been in correspondence with the Infirmary, concluded to consult you. I did so with little hope of a beneficial result. From the manner in which I was received and the satisfactory diagnosis of my case, I placed myself under your treatment. On the 16th day of October you operated upon me with such complete and satisfactory success, that I am now a sound and happy man, and am confident that had I been treated by you ten years ago that I would now be twenty years younger in feeling and thousands of dollars better off. It affords me pleasure, doctors, to recommend the Invalids' Hotel and Surgical Institute to all of the afflicted, and to assure them of the most skillful treatment, honest and polite attention, and with the assurance of my kindest and most grateful remembrance, I am,

N. T. ROBERTS, ESQ.

Yours truly,

N. T. ROBERTS, Pine Bluff, Ark.

RECTAL FISTULA.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Having been a great sufferer for years and receiving little or no benefit from other physicians, I determined to try your Institution, and with grateful results.

Having a successful operation for a fistula (of five years' standing) without the knife, while other home-physicians advised me there were no other means. And my troubles are yielding slowly but surely; my general health is better than for twelve years—all of which I owe to Dr. Pierce, and his skillful physicians and surgeons.

Please accept my sincere thanks for the kindness shown me while an inmate by all connected with the Invalids' Hotel. I shall heartily recommend your Institution to all sufferers.

Yours gratefully,

MRS. M. B. LOTHROP,
Villa Park,
Orange Co., Cal.

MRS. LOHTROP.

UTERINE AND RECTAL DISEASE.

Home Physicians Failed.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

To whom it may concern—I was greatly afflicted with Uterine and Rectal disease. My disease was of very long standing and had baffled the skill of our home physicians. I went to the Invalids' Hotel and Surgical Institute, and received treatment of their specialist. Under his skillful care and kind attention I soon regained my strength and felt that my former life and ambition were again restored to me. I cannot speak in too high praise of this famous Institution; the rooms are large and cheerful, the food of the very best, the nurses kind and attentive, and the staff of physicians and surgeons skillful and of large experience.

MRS. CLAWSON.

Yours respectfully,

MRS. CHAS. CLAWSON,
Middlesex, Yates Co., N. Y.

RECTAL FISTULA

With Blood-Poisoning, Cured by a Safe and Painless Method. A Prominent Merchant Testifies to the Superior Methods Employed at the Invalids' Hotel and Surgical Institute.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

J. F. EATON, ESQ.

It is with pleasure that I testify to the cure of the Fistula, for which you treated me. I had suffered from it for a long time, and felt that it was likely to seriously undermine my health and poison my system. I had deterred having it treated from the fears of the cutting operation in common use by physicians in the large hospitals and by surgeons in general practice. My fears were grounded on the fatal results that had followed in cases in my knowledge. I am thankful that I placed my case in the hands of your experienced specialists for treatment. The result has been a perfect cure. The treatment of the blood-poison that you gave me was successful in eliminating it all from my system, and I have since enjoyed perfect health, and no recurrence whatever of the fistula. It has been now many years since I was cured, and I thank you most sincerely for the good results that were brought about in my case.

I can recommend your institution as one in which all the requirements of an invalid are fully met.

Yours truly, J. F. EATON, Auburn, Mo., Box 806.

RECTAL FISTULA and NERVOUS PROSTRATION–RUPTURE.

To the afflicted public:

It becomes my pleasant duty to recommend the Invalids' Hotel, Buffalo, N. Y., as an Institution for the successful treatment of surgical cases and chronic ailments of every description. It is with especial pleasure that I recommend the surgeon-in-chief of the Hotel, who is a skilled surgeon, one who stands at the head of the profession. The appointments of the Hotel are excellent. I was afflicted with an Anal Fistula (a very bad one it proved to be). I went to the Invalids' Hotel for treatment. Was placed under the care of your surgeon, who treated my case with such skill, that the parts are healed soundly. I recommended a friend of mine, who had a rupture, to go to you for treatment. He did so and was soundly healed of his trouble. I will cheerfully answer all communications relative to my stay at the Invalids' Hotel, provided a stamp is enclosed for return postage.

Yours truly, M. L. STIGERS, Menlo, Iowa.

M. L. STIGERS, ESQ.

ANAL FISTULA.

Complicated Case of Heart Disease.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

Gentlemen—I feel that it is my duty to suffering humanity to let them know of your great success with me. I had a chronic disease that I had suffered with for sixteen years, and last November, owing to a fall, the disease doubled on me. I was confined to my bed for months, and the best surgeons of our city attended me daily. I continually grew worse. After consultation they decided that the knife must be used, which is attended with great pain and danger. I wrote you and stated my case; you said you could entirely cure me without pain, also without the use of the knife. I determined to go to Buffalo. Arrived there the 18th of March, and on the 20th of April I was at home entirely cured, and have enjoyed better health than for years. You also treated my wife for heart trouble, and greatly benefited her. The thoroughness of your methods, preparing the system, etc., greatly adds to your success, as well as your skillful treatment. I shall ever hold the surgeons at the Invalids' Hotel and Surgical Institute as a green spot in my memory.

N. S. JOHNSON, ESQ.

Yours respectfully,

N. S. JOHNSON, Bloomfield, Iowa.

HERNIA AND PILES CURED WITHOUT PAIN.

J. J. APP, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I have been successfully treated at your institution for piles and also rupture of the left side. Your institution is all it claims to be, and the treatment of my case was accomplished without pain and apparently any risk. Your method of using locally cocaine as an anæsthetic is such a decided improvement. I did not have to take any dangerous ether or chloroform, but had a small quantity of medicine injected that made the operation as painless as though it was being done on some one else. At the same time I knew everything and could see what was being done.

You have my kindest thanks for the good care and many attentions given me. Your nurses and physicians all give kind and skillful care.

Yours very truly,

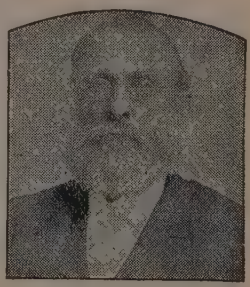
J. J. APP,
Bolivar, Tuscarawas Co., Ohio.

LARGE PILE TUMORS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I was afflicted with piles for many years, brought on by heavy lifting during the war. My suffering was extreme, and the pile tumors gradually increased in size, notwithstanding the fact that I tried many different kinds of treatment. After becoming physically incapacitated and unable to do any work at all, and after much hesitation, I visited your institution as the last resort. I am happy to state that my visit there has resulted in a complete and permanent cure. A year or more has now elapsed since I placed myself under the care of your specialist, and I wish to thank you most heartily, for the attention which I received while there, and for the cure which has been accomplished in my case. I cannot say enough in favor of you and your staff of physicians who gave every attention, and whose treatment has been so successful. All suffering has entirely vanished, and I have gained about 35 pounds in flesh.

Respectfully yours,
J. C. BAGLEY, Watts Flats, Chaut. Co., N. Y.

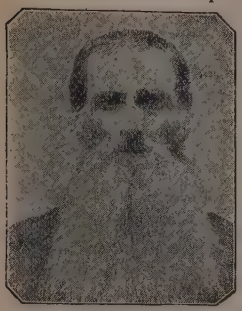


J. C. BAGLEY, ESQ.

LARGE PILE TUMORS; CHRONIC INFLAMMATION OF BLADDER.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

I was troubled with piles for thirty years. These were very mild at first but gradually increased in severity, and I was unable to get anything which would relieve them. They gradually increased in size, and for a good many years past have caused me a great amount of pain. The tumors became of large size and protruded whenever I lifted anything heavy or strained in the least; also bled copiously at times. This, together with chronic inflammation of the bladder, with which I have also suffered for some years, rendered my life miserable. Physicians at home gave up my case as hopeless, and said that they did not think I could be benefited, and certainly not cured. I visited your institution, hoping to obtain relief, but with very little faith, and am happy to say that the treatment which I obtained there has resulted in a permanent cure of the piles, and the inflammation of the bladder has been so greatly relieved that at present I have no suffering of any kind. The cure is complete and I feel like a new person. In fact I have not experienced such comfort in many years. I shall always appreciate the kindness and attention shown me by your staff of physicians, and also by the nurses in your Institution, and shall advise my afflicted friends to make you a visit.



P. CRUMP, ESQ.

Very respectfully,
PETER CRUMP, Dennison, Goodhue Co., Minn.

S. H. CROSBY, ESQ.

PILE TUMORS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Since the spring of 1872, I have been troubled with pains in head, the result of sun-stroke while in the U. S. army, and pile tumor growth. For the last named disease I was treated at the Invalids' Hotel and Surgical Institute, in June of 1887, and the growth, as I believe, is killed, and the result has been a great benefit to my general health. I am quite comfortable and with strength to look after my little work and superintend the same, much better than before treatment, for which benefit please accept my thanks.

Yours respectfully,

S. H. CROSBY,
Manito, Mason Co., Ill.

BAD CASE OF PILES CURED BY HOME-TREATMENT.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I received a few days ago a communication from you requesting a photo. of myself. I will say that I am sorry, but I have had no photograph of myself taken since I was a child, but will gladly give you a testimonial and I will answer by letter any skeptical ones that you refer to me, provided they send a return addressed and stamped envelope for reply.

Just one year ago, I was suffering untold agonies from internal piles and prolapsus of the rectum: my bodily pain was so great that the mental strain was almost more than I could stand. I was useless to myself and family and had about persuaded myself it would be better to take my life, and I think I should have done so had not a copy of the Common Sense Medical Adviser happened to fall into my hands. I was not certain just what my trouble was, at least what to call it. I began the Chapter treating on Pile Tumors, and then I realized just what my trouble was. I wrote you and received encouragement. I sent for a month's treatment and it was certainly the best investment I ever made. I received the medicines at noon,—read the directions carefully and commenced at once to carry them out. I seemed better the next day. I suffered less, and in a few days there was a decided change for the better. I continued the medicine until I had taken all of it; I have not taken any since, except occasionally a few of Dr. Pierce's Pellets, just enough to act as a mild laxative. I am perfectly well. I was always more or less constipated all my life. I now understand that by keeping the bowels open and in good order, I could have avoided all of the suffering that I have gone through; my friends all think my recovery almost a miracle. I feel, Oh, so grateful to you, I shall never fail to speak a word in your favor to suffering humanity. Respectfully,

Mrs J M Heist

Fayette, Howard Co., Mo.

PILES AND CHRONIC DIARRHEA.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—I was a great sufferer for thirty years from piles, and take great pleasure in bearing testimony to the fact, that since you treated me, seven years since, I *have not had a symptom of piles.*

At the above stated period I had also been a sufferer from diarrhea, in its most aggravating form, for three and a half years, and I was completely and radically cured of that, also.

I beg to assure you, and your noble associates, of my lasting gratitude, and feel no hesitancy in expressing the opinion that but for your great skill in treating me, I should have been in my grave. I state for the benefit of all those who may be similarly afflicted that if they will place themselves in your hands, you will soon effect radical cures.

JOHN J. BRADFORD,
Augusta, Perry Co., Miss.

J. J. BRADFORD, ESQ.

L. H. ESTEY, ESQ.

LARGE PILE TUMORS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Allow me to thank you for the kind attention and skillful treatment I received while at your Institution for five weeks' treatment. I cannot speak too favorably of your Institution.

You have my best wishes for your continued success.

Respectfully yours,
L. H. ESTEY,
Hinsdale,
Cheshire Co., N. H.

HEADACHE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I have used your medicines for a number of years, and know that they do for me all that is claimed for them. I am employed mostly at my desk, and not infrequently have an attack of the headache. It usually comes on in the forenoon. At my dinner I eat my regular meal, and take one or two of Doctor Pierce's Pleasant Pellets immediately after, and in the course of an hour my headache is cured and no bad effects. I feel better every way for having taken them—not worse, as is usual after taking other kinds of pills. Your "Pleasant Pellets" are worth more than their weight in gold, if for nothing else than to cure headache. Very respectfully,

E. VARGASON.
Otter Lake, Lapeer Co., Mich.

E. VARGASON, ESQ.

DYSPEPSIA, NEURALGIA.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Before using your medicines, my food would not digest; then neuralgia set in, and I suffered severe pain through my sides, shoulders, breast and stomach. Bilious attacks were frequent; then my flesh began stinging and my heart began beating badly and making me so that I could not lift a chair, and all together threw me into a cramp and a numbness, and the family thought I was dying, and sent for another doctor who said it was hard to do anything for me; he visited me almost six years and did not help me; the pain was so great I had to scream; I said to my doctor, "can you give me something" and he said, "yes, but it will not do you any good." I told him he had not done me any good in six years, and I would quit him. I saw I was almost gone, very pale and weak and did not eat anything.

MISS GWIN.

I began your "Golden Medical Discovery," and one-half bottle helped me so much I began work and improved fast; it helped me so I got 10 bottles. While using them my friends said when I quit I would be just as bad as ever. It has been five years and no need of a doctor yet, and I will say that I think it cannot be beat, and I will still believe in it, for if it had not been for the "Golden Medical Discovery" I would have been in my grave. Your medicines have helped my brother, and father is using it now and it is helping him. I remain,

Your true friend,
MISS C. B. GWIN, Cowardin, Bath Co., Va.

BLOATING OF BOWELS, CAUSED BY LIVER DISEASE.

MR. G. S. WATRING.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—My son, aged fourteen years, was taken with bloating of the abdomen; this would go down leaving the parts so sore he could scarcely stand. We had three different doctors to treat him, but he grew steadily worse. We then commenced giving him Dr. Pierce's Golden Medical Discovery, and after using it three days he commenced to improve. Last summer he had so fully recovered his health as to make a full hand in the harvest field. He took, in all, only six bottles of the "Golden Medical Discovery," and it saved his life.

Respectfully yours,
J. B. WATRING,
Lead Mine, Tucker Co., W. Va

NERVOUS DYSPEPSIA; UTERINE AND SPINAL WEAKNESS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I had nervous dyspepsia for twenty years, followed by uterine and spinal weakness with irritation of the same. In the Spring of 1890 I became so exhausted that I was compelled to keep to my bed with symptoms of paralysis in the lower limbs, and many other distressing symptoms. I accidentally obtained one of Dr. Pierce's Medical Advisers from a friend, and finding my ailments so well described therein, I wrote to Dr. Pierce for his advice, which he sent by return mail. For my recovery he requested me to use his "Golden Medical Discovery," his "Favorite Prescription," and his "Pleasant Pellets." He also gave me some directions for every-day living. These means accomplished my complete cure. I am thankful that we can have such reliable medicines brought into our homes without great expense.

Yours truly,
MRS. AMERICA NAY,
Volga, Jefferson Co., Ind.

MRS. NAY.

DYSPEPSIA, TORPID LIVER—TERRIBLE SUFFERING.

DR. R. V. PIERCE: *Dear Sir*—When I commenced your medicines, had headache all the time, indigestion, pain in my back and loins, soreness and stiffness in my joints, my limbs ached so I could not sleep at night: I could not lie in bed more than two or three hours any night; when I would lie my head on the pillow I would have to rise immediately to get breath, sit up and walk the floor very near all night. I could not eat anything that would digest; I would do the cooking for the family, but I was in so much pain the tears were in my eyes all the time I would get a meal ready. I would take one mouthful of bread and then go off and sit down and cry with hunger, but dare not eat any more, and then would have to vomit from that one mouthful of bread—I would have such weak spells I could not stand on my feet.

MRS. O'BANNON.

I had tried five doctors, they had done me no good; I had given up—never to take anything more, only to lull the pain. I had given up to die when I received a pamphlet and some papers from you. I decided to try once more and I have been improving ever since I commenced your treatment my health is better than it has been for fifteen years; I weighed one hundred pounds when I began taking your medicines; now I weigh one hundred and thirty, as much as I ever weighed. I have taken ten bottles of "Favorite Prescription" and still more of "Golden Medical Discovery," and several vials of the "Pellets."

Your sincere friend, MRS. M. H. O'BANNON,
Lameta, Leake Co., Miss.

Fig. 1.

Nervous System.

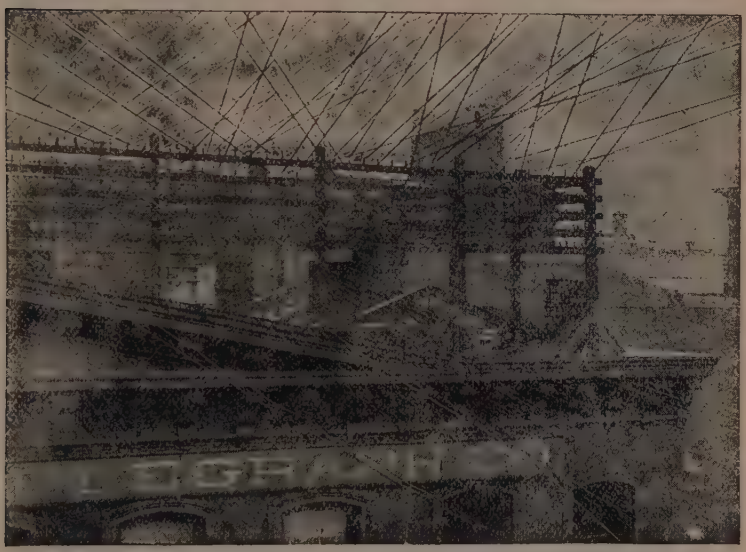
THE NERVOUS SYSTEM.

The nerves of the human body are not unlike the vast telegraph system of this continent.

The millions of nerve filaments are similar to the network of wires that keep all the cities in close sympathy and communion. The nerves have to deal with organs instead of villages, and with cells in place of individuals.

Commerce is regulated and train loads of food supplies dispatched

Fig. 2.



View on roof of Western Union Telegraph Company's Central Station, Buffalo, N. Y., showing net-work of wires leading to all parts of the country.

here and there by telegraph, while in the body the nerves send their analogue, increased blood and nourishment, where it is required.

The various organs of sense receive manifold impressions of conditions to be met, food required and dangers to be avoided and the nerves transmit these impressions telegraphically to the brain.

The structure of the brain, spinal cord and sympathetic nerves, is not unlike a gigantic and complicated galvanic battery. The number of cells in the brain and spine are more numerous, by many millions, than those supplying any telegraph system.

As the blood supplies each cell with its necessary nourishment and

removes its used up or waste materials, so does the workman give each cell of his battery fresh chemicals from time to time, and removes the used up waste.

The wires that lead from this battery to every part of the country are like the nerve filaments that go to each part of the human body and make them all—no matter how minute—perform their functions in a proper manner, and, when done, permit them to retire to rest.

With the complicated human structure, when disease takes hold, we have the same troubles that would be presented were the telegraph operators suddenly to become ill. What confusion and discord would prevail! If the sickness is severe enough to cause delirium, it would be as though madmen were at the telegraph keys dispatching trains of passenger cars which could hardly fail to bring injury and destruction to unwary travelers.

In health, we are unaware of the work of the nerves. The wheels of life move without noise. Few realize that the cavities of the heart (auricles and ventricles) are contracting steadily and alternately under the guidance of nerve cells. By this means the stream of blood, laden with nourishment, is sent to every part of the body.

Silently the stomach pours out, under nerve influence, its juices that dissolve and change parts of the food, that it may pass into the blood in condition to nourish. In a similar way, the pancreas pours out a fluid that digests the fats.

The muscular fibres of the intestines are caused to contract rythmically and force along the bolus of digested food, so that its soluble parts may be taken up by the minute absorbent vessels to enrich the blood.

All these things of most vital importance we know least about. They go on, from day to day, without our being aware of the work done.

Let something interfere with the process, and how quickly is the sensation changed. Few there are who have not felt the agony of colic pain, due to stoppage of digestion. What suffering is greater than the sense of awful suffication from a heart that is not acting well?

These are only familiar illustrations of a thousand and one distressing derangements and symptoms that come from exhaustion and prostration of the nervous system.

NERVOUS DEBILITY
OR EXHAUSTION.

This affection, also popularly known as Nervous Prostration, or Nervous Weakness, and, to the medical profession, as Neurasthenia, or Nervous Asthenia, is becoming alarmingly prevalent.

The wear, tear and strain of modern life are concentrated upon the nervous system. The care and consequent fret, worry and labor of this age are greater than ever before known.

The result of this extreme activity, is exhaustion and weakness. Physical bankruptcy is the result of drawing incessantly upon the reserve capital of nerve force.

We extract the following from an article which recently appeared in the New York *Tribune:*

AN AGE OF NERVOUSNESS.

The stone age, the bronze age and the iron age, we have heard of; likewise of the Dark Ages, and other self-marking eras in human history. As for the present, it might with fitness be known as the age of engineering, or of electricity, both of which proud titles it has won by its achievements. Yet there is also a less roseate view to be taken of it, and another title to be given to it, based upon its too-evident frailties; namely, that it is an age of nervousness.

Such is the view taken by the famous psychologist, Dr. William Erb, of the University of Heidelberg. Nervousness, he says, meaning nervous excitement, nervous weakness, is the growing malady of the day, the physiological feature of the age. Hysteria, hypochondria and neurasthenia are increasing with fearful rapidity among both sexes. They begin in childhood, if not indeed inherited. Minds are overburdened in school, with too much teaching or misdirected teaching. The pleasures of social life follow, overexciting the already enfeebled nervous system. Business life is made up of hurry and worry and shocks and excitements. Society, science, business, art, literature, even religion, are all pervaded by a spirit of unrest, and by a competitive zeal which urges its victims on remorselessly. No man knows repose. The result is, wreckage. The pharmacopœia is overcrowded with nerve tonics, nerve stimulants, nerve sedatives. The medical profession devotes its best energies to the treatment of neuropaths. And as a people we are, or are becoming, excitable, irritable, morbid, prone to sudden collapse through snapping of the overtense chord of the nervous vitality.

Nowhere are the rush and hurry and overstrain of life more marked than in this much-achieving Nation. The comparative youth and freshness and vigor of the American people enable them to do and to endure what would be beyond the power of an older and more worn-out community. Yet there is no disguising the fact that the pace tells even here, and often tells to kill. True, all the tendencies of the age are in that direction. Inventions, discoveries, achievements of science, all add to the sum of that which is to be learned, and widen the field in which there is work to be done. What we need to learn is, however, that all these things are for man, not man for them. If knowledge has increased, we should take more time for acquiring it, knowing that, with the consequent increase of power, we shall be able to achieve as much afterward in the shorter time as our predecessors did in the longer time their briefer study afforded.

Greater ability should mean not only greater results wrought, but fuller repose as well. For it would be a sorry ending of this splendid age of learning and of labor to be known as an age of unsettled brains and shattered nerves.

A distinguished medical authority says:

"It is proved beyond any dispute that nervousness is the characteristic malady of the American Nation, growing upon them in a frightfully accelerated ratio every year, and threatening them with disasters at no distant date which the mind shrinks from contemplating."

He continues as follows: "The number of deaths from this cause is already appalling and is steadily and rapidly increasing. In some of the busy centres the tables of mortality show that the proportion of nerve deaths has multiplied more than twenty times in the last forty years, and that now the nerve deaths number more than one-fourth of all the deaths recorded. What is most shocking in these returns, this fearful loss of life occurs mainly among young people of both sexes."

"This means that the Americans are fast becoming a very short-lived people; and that if they were shut in on themselves for only a few years, without any influx of vitality by immigration, the publication of the census would send a pang of horror and alarm throughout the land."

The annual report of the State Board of Charities of the State of New York for 1894, shows that while the increase in the State's population from 1880 to 1892 was 28 per cent., the increase of the insane in State institutions for the same period was 83 per cent.!

The enjoyment of the fruits of fortune, earned at the expense of the nerve cells, is an impossibility. The quiet and harmony of the nerve centres and nervous system are gone. Rest is impossible, continuance of work only causes increased jarring and discord of that many stringed and wonderful mechanism.

Symptoms. It is well nigh impossible to give the symptoms of this disease in an orderly manner, as the affection gives rise to a thousand and one varying and ofttimes vague symptoms. The particular part of the nervous system affected, and also the cause and character of the attacks modify the symptoms. The eminent Dr. Wood says: "Nervous exhaustion may, in the beginning, affect the whole of the nervous system, or it may be at first purely local, and co-exist with lack of general nervous strength."

Spermatorrhea furnishes many examples of the local form of neurasthenia, or exhaustion, the sexual centres being primarily affected. In these cases, however, sooner or later, the whole nervous system becomes involved. So in other forms of the disorder, the exhaustion at first local, finally, if neglected, implicates the whole organism. Often, in brain exhaustion, the symptoms are at first purely local. Almost always the cause of a local neurasthenia, or exhaustion, is excessive use of the part. Thus, cerebral or brain exhaustion, or debility, is usually the result of mental overwork, while sexual asthenia, or weakness, is generally due to abuse of the sexual organs or to sexual

excesses. When to the brain fatigue, or exhaustion, are added the depressing effects of excessive anxiety, or allied emotions, the symptoms from the first are more general, and the exhaustion may effect chiefly a single function of the brain. In pure brain exhaustion, the loss of a disposition to work, is usually the first symptom, the sufferer finding that it constantly requires a more and more painful effort of the will to perform the allotted task. At first, there is loss of the power of fixing the attention, and this, by and by, is accompanied by a weakness of the memory; disturbances of sleep are frequent; various abnormal sensations in the head are complained of. In most cases there is not absolute headache, but a feeling of weight or fullness, or an indescribable distress, usually aggravated by mental effort. It is true that in some cases of very dangerous brain tire, mental labor is performed with extraordinary vigor and ease; the power of work, is, for the time, markedly increased, and even the quality of the product may be raised. The patient may glory in a wild intellectual exaltation, a sense of mental power, with an almost uncontrollable brain activity. It is probable, however, that these cases are not instances of pure neurasthenia, or brain exhaustion, but that there is active congestion of the gray matter of the brain. In these cases the disease is very prone to end in serious organic affection of the brain.

Severe brain exhaustion may be associated with good spirits, but usually there is marked depression, and this perversion of function generally goes on, if the disease be not checked, to decided melancholy. The will power, like all the other functional activities of the brain, is prone to be weakened, morbid fears may finally develop, and at last, that which was at the beginning a single brain exhaustion, may end in persistent hypochondria, followed by insanity.

Fig. 3.

Melancholy.

Peculiar sensations are common in neurasthenia, such as chilliness, unnatural itching, a feeling as though ants or other insects were crawling on the skin. Eruptions are common. Attacks of neuralgia are often frequent and sometimes severe, being usually worse in those persons of nervous ancestry. In some cases there is a lack of proper sensation, in others an unnatural sensitiveness. There is also in many cases a peculiar tenderness over some portion of the spinal column, especially in women.

In women, with nervous disturbance of the sexual organs, there is frequently great pain felt during menstruation; in others, ovarian irritation and a so-called "irritable," or sensitive uterus, giving rise to manifold nervous and hysterical symptoms, sometimes culminating in convulsions or "fits." In not a small proportion of the uterine diseases

which are generally only locally treated by physicians, the local disease is largely and sometimes solely the expression of a general weakness of nervous origin.

SELF-ABUSE AND EXCESSES.

It is well known that Onanism, or masturbation, as well as sexual excesses, produce an exhaustion of the nerve centres presiding over the sexual functions. This is the common history of spermatorrhea, or loss of the virile fluid by nightly emissions, accompanied by lascivious dreams.

General Neurasthenia, or nervous exhaustion, may also produce a local weakness of the sexual centres of the brain and spinal cord, with symptoms at least resembling those of partial impotency and great irritability of the sexual organs, or a complete impotence, with premature seminal discharge whenever coition is attempted. Many times this condition results from excessive intellectual labor, even with no sexual excesses or abuses. Nocturnal, or nightly emissions, are not always experienced in these cases. When they do occur, the debilitating losses of vital fluid react upon the brain, robbing the victim of courage and manliness and exciting various phases of morbid fear and sensitiveness.

Many cases of nervous debility, or exhaustion, are the result of long continued malarial poisoning, diarrhea, Bright's disease, exhausting fevers or other debilitating affections. Numerous are the cases in which the patient is able to trace the origin of the malady back to an attack of influenza, or grip. An epidemic of the latter disease is sure to be followed by numerous cases of nervous prostration, or exhaustion.

CARE SHOULD BE EXERCISED.

In all cases, it is necessary to make careful examinations in order to detect any obscure chronic disease which may exist. In women, nervous prostration often develops without preceptible cause at the age of puberty or at the "change of life." Overwork, especially overwork combined with worry, are fruitful causes of nervous exhaustion in both sexes.

AN OVERWORKED NERVOUS SYSTEM

is always an exhausted nervous system. The nerve cells have been robbed of their vital forces. All the nutritive organs of the body suffer from the lack of nerve control, and the blood-vessels that supply the nerve centres are not in proper tone. Hence the supply of blood and the action of the heart are greatly interfered with. Many times, the most troublesome symptom, early in the disease, is an excessive perspiration of the hands and feet.

IMPOVERISHED OR POOR BLOOD.

A badly nourished nervous system is irritable. Many of the symptoms of weakness and lack of nutrition resemble those found in congestion, or stimulation from excess of blood. Then, too, we find sometimes that poor, thin, watery blood, not suitable for nourishment although sent in large amount to the brain, does not properly nourish that organ. There will still be brain exhaustion, as the nervous structures have lost their power of absorbing the nutrient materials from the blood which, being poor in quality, does not vitalize and strengthen the nerve centres as it should. In such cases thought is an effort and sustained mental exertion is impossible; the memory is uncertain, and the patient drowsy. Occasionally, after rest, there may be flashes of brilliancy, but generally they are brief.

DANGER OF CONTRACTING INTEMPERANCE.

The patient often learns that a small amount of wine or spirits is a temporary aid, and sometimes its habitual use is begun in this way. Stimulants only make a bad matter worse when their use is continued for any considerable length of time. The sufferer becomes more and more dependent upon them and the nervous exhaustion is much aggravated as large quantities are taken to satisfy the morbid craving that has been acquired.

Wakefulness, or insomnia, is present in many cases; in others, there is unusual drowsiness but sleep gives neither rest nor strength; often it is disturbed by dreams that exhaust the vitality and leave the patient more tired than when rest was sought.

Headache is one of the most annoying symptoms and sometimes is very persistent. It may incapacitate the patient for the ordinary duties of life. After laying down awhile and being quiet, the headache may be relieved, but recurs on attempting to go about.

Fretfulness. Sometimes, owing to the discomfort experienced, there is likely to be a change of disposition, irritability of temper, fretfulness and peevishness; a tendency to an irascibility all out of proportion to the real provocation. In many cases there is dizziness, and frequently noises in the head, ringing in the ears, spots before the eyes, twitching of the muscles, eyelids or eye muscles, and at times dimness of vision, or sudden spells when the sight is not satisfactory. At times there is a feeling of discomfort, as if the quantity of good air were not sufficient to aërate the blood, and there is sighing or a desire to sit in an open window, or a strong desire to be fanned. The pulse and temperature are usually normal, or a little below, but may rise if any local irritation exists. At times the face is flushed and at others pale. The skin may be dry, or in other cases bathed in perspiration on slight exertion or mental worry. When there is weakness of the nervous system, the disease manifests itself through

various organs. Hence, the palpitation of the heart, dyspepsia or acute attacks of indigestion, with colicky pains and heaviness after meals, with eructations or belchings of gas, or local discomfort and unnatural action affecting, at different times, almost every organ of the body. It is well known that insanity may result from the loss of sleep and constant brooding over the symptoms that the patient fails to properly understand.

TREATMENT.

In no class of diseases is greater care, scientific knowledge and skill more necessary than in the treatment of nervous affections. Almost every case is a law unto itself, and must receive careful consideration, pains-taking advice and specially prescribed treatment suited to the peculiarities of the individual. Hereditary influences, causes of the disease and constitutional peculiarities of the patient must all be taken into account.

VALUE OF EXPERIENCE.

Only through extensive experience can the medical practitioner become expert at detecting and successfully meeting, by rational, scientific and carefully adapted treatment, the many phases and complications incident to the different forms and stages of this very prevalent malady.

For more than a quarter of a century, the Specialists of the Invalids' Hotel and Surgical Institute having charge of this department of practice, have been actively engaged battling with diseases of the nervous system. As a result of this long time and vast experience, they have naturally developed and thoroughly tested many valuable remedial agencies for the relief and cure of this class of sufferers. Many of these can be successfully prescribed and used at the patients' homes without a personal consultation; while others can only be brought into use at our Institution.

TREATMENT AT HOME.

Many cases, especially when the exciting cause of the malady can be easily ascertained, as in spermatorrhea from self-abuse, or sexual excesses, or in women when arising from uterine affections, can be very successfully managed and cured at home. This is also true when the disease is due to the excessive use of tobacco, opium and other narcotics.

CONSULTATION BY LETTER.

The patient has thought over his symptoms hundreds of times. The location of every discomfort has been carefully noted. These matters are stated with accuracy, common sense and good judgment when writing to us. The people are far more intelligent in these matters than physicians are generally willing to admit. A patient is often confused

while being personally examined by a physician and gives imperfect or incorrect answers. After he has left the presence of the physician, he finds that he has failed to enumerate many of the most important symptoms. In consulting by letter, the patient is not embarrassed, states the exact symptoms and carefully reads over the letter, to see if it is a complete and accurate description of his sufferings. In this way he often conveys a much better idea of the case than if present in person, and subject to the most thorough questioning and "cross-examination." The timid lady and nervous young man write just as they feel and one reason why we have had such success in treating intricate and delicate diseases, is because we have obtained such true and natural statements of the cases from these letters, many of which are perfect pen pictures of disease. As bank tellers and cashiers, who daily handle large quantities of currency, can unmistakably detect spurious money by a glance at the engraving or touch of the paper, so the experienced physician, by his great familiarity with disease, becomes equally skilled in detecting the nature and extent of a chronic malady, from a written description of its symptoms. To aid the patient in giving a clear and intelligible history of his case we send, when requested, a very complete question blank.

EXAMINATION OF THE URINE.

A careful, microscopical examination and chemical analysis of the urine is a valuable aid in determining the nature of these diseases of the nervous system. This important fact is not overlooked at the Invalids' Hotel and Surgical Institute, where experienced chemists are employed to make such examinations and report the result to the attending physicians. Persons consulting us and desiring to avail themselves of the advantages afforded by these examinations, can send a sample of their urine by express. The bottle should be thoroughly cleansed and should contain from two to four ounces of that first passed after arising in the morning. It should be carefully packed in saw-dust or paper and inclosed in a light wooden box. All express charges must be prepaid through and a complete history of the case, including the age and sex of the patient, should accompany every package, or it will receive no attention. This saves valuable time by directing the examination into the channels indicated and thus avoiding a lengthy series of experiments. As we are daily receiving numerous bottles of urine, every sample, to prevent confusion, should be labeled with the patient's name. By the postal regulations, all liquids are excluded from the mails, unless packed in accordance with our printed directions, which will be sent free on request being received for them.

WE AIM TO CURE,

not merely to palliate as is so often done by practitioners in dealing with these distressing maladies. We do not prescribe coca mixtures,

whiskey, malt extracts, so-called celery compounds or other nerve stimulants, which only spur the already weakened nervous system on as a man would urge his jaded horse to renewed efforts when the animal should be refreshed by proper food and rest. Neither have we any faith in lasting good resulting from prescribing such nerve sedatives as put the nerves to sleep and so, by simply blunting sensibility, delude the patient into the false belief that he is being benefited.

To effect a radical cure of the weakness, the nerve centres must be restored to a normal condition by improving the nutrition of the nerve cells. To do this the causes of the difficulty must be understood and any local weakness or disease of any organ, be it the liver, kidneys, lungs, stomach, rectum, bladder, or generative organs, must be understood, properly treated and overcome. The desire for alcoholic stimulants is a most common and dangerous tendency of the disease. To gratify the morbid appetite for stimulants is to do the patient lasting injury.

IMPOVERISHED BLOOD.

In some cases the nervous affection is the result of an impure, or impoverished, condition of the blood. In such cases the use of Dr. Pierce's Golden Medical Discovery has, in the great majority of cases, resulted in an immediate benefit and gradually in a permanent restoration of the nerve centres to a normal condition. This remedy, particularly if assisted by the use of Dr. Pierce's Pleasant Pellets, when constipation is present, unloads the liver, and their combined action tends to remove from the blood the poisons which it is the function of the liver to take from that fluid. The cells of the brain, after performing their function, throw into the blood certain poisonous materials which it is the function of the liver to remove. If this is not done, the cells become clogged, and can only be restored to a natural and healthful condition by increasing the activity of the liver. This treatment gives rise to an immediate improvement, and a continuance of the remedies results in a gradual toning up of the nervous system and relief from the unpleasant symptoms.

"FEMALE WEAKNESS."

Many women suffer from nervous prostration, or exhaustion, owing to congestion of the uterus and ovaries, caused by over-indulgence; again by overwork, the strain of too many household cares, or too frequent childbirths. In these cases, the use of Dr. Pierce's Favorite Prescription is of the greatest benefit, tending to restore the uterus and ovaries to a normal condition. Its wonderful restorative effects, tonic and nerve invigorating properties, especially adapt it to the cure of these cases. Digestion and assimilation of food are promoted by its use. When the liver or blood is not in healthful condition, as previously referred to, the "Golden Medical Discovery" should be used in

conjunction with the "Prescription." If menstruation be scanty, Dr. Pierce's Pellets will have a beneficial influence in increasing the flow, and overcoming the headache and congestion of internal organs that is the result of scanty menstruation, especially if their use be accompanied with full doses of Dr. Pierce's Compound Extract of Smart-Weed.

LOCAL CAUSES.

In the great majority of cases, when nervous prostration has made its appearance at intervals, with periods of prolonged good health intervening, but in which, as a rule, slight excesses, over-exertion or the attacks of some acute disease, produces a nervous exhaustion, we have found that local derangement is the cause of the whole trouble. This cause may often be readily removed and a perfect and permanent restoration of the health will follow.

In Men, we have often found a varicocele to be the cause of nervous prostration. In others rupture, or urethral stricture, sometimes of a character so mild as hardly to give serious inconvenience, has been the cause.

In Women, ulceration of the uterus, stricture of the cervix, congestion or other diseases of the ovaries, such as cysts, abscesses, etc., inflammation of the Fallopian tubes, characterized with more or less periodical discomfort and attacks of leucorrhea, or "whites," are common causes.

In all cases in which the nervous disease depends upon local causes, we find that the relief of the local source of irritation, which tends to reduce the general health and interfere with perfect nervous tone, is all that is necessary to give the invalid a perfect restoration to health, vigor and activity. It is like removing the burden from a tired horse who has fallen prostrate under an excessive load. The removal of the burden puts the individual under a favorable condition for the immediate restoration to health and strength, and permanent relief is only a matter of a few days' or weeks' time, with appropriate nourishment and restorative nerve tonics.

ALCOHOL, OPIUM AND TOBACCO

affect different individuals according to their several susceptibilities. Some are able to withstand, with apparent impunity, an amount of these that can not be tolerated by others without great injury. No one, however, is wholly proof against these unwholesome agents which are in such common use. The sad results of their excessive use are seen in thousands of cases of shattered nerves and wasted vigor. The excessive use of tea and coffee is also a prolific cause of nervous affections.

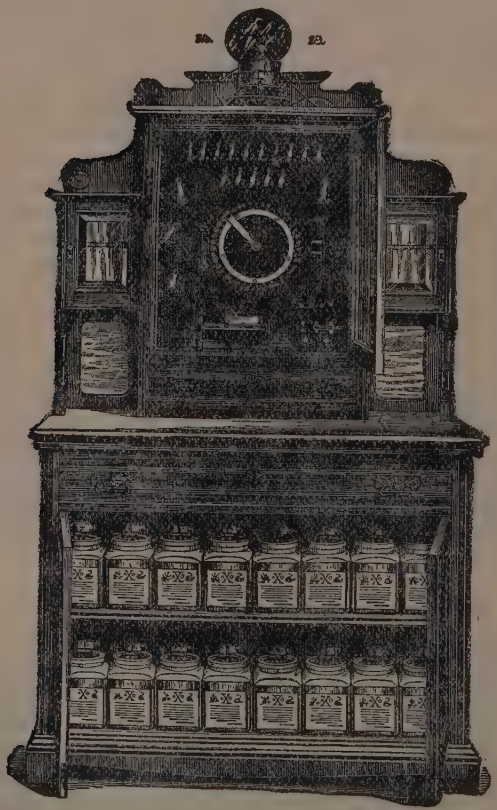
Happily, we have now at our command remedies which exercise a most potent controlling influence over the acquired, morbid appetite

for these narcotics and stimulants. Of course we have to depend, to some extent, upon the will power of the patient, but where this is not wholly lost, we have in all our later experience, been able to realize a degree of success which has been alike gratifying to both physician and patient.

THE INVALIDS' HOTEL AND SURGICAL INSTITUTE SPECIALLY EQUIPPED FOR THE CURE OF NERVOUS AFFECTIONS.

Private institutions, well supplied with the numerous and costly aids

Fig. 4.



Our large 40 cell Galvano-Faradic Battery with Switch-board.

to the work of the specialist treating nervous diseases, are now a recognized necessity. Physicians and sufferers alike appreciate this fact.

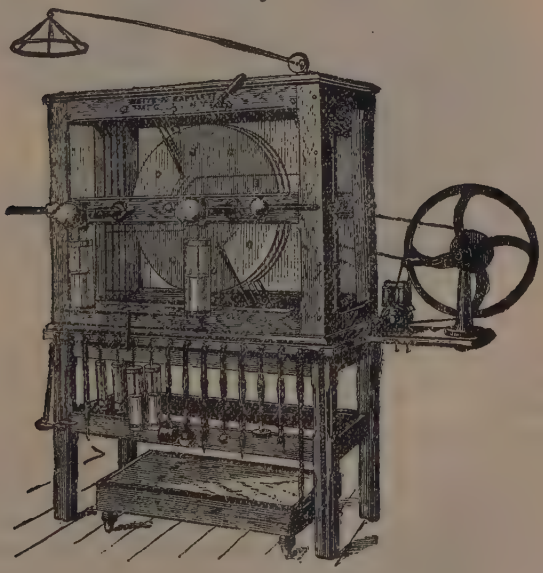
Public hospitals do not answer this purpose, owing to the fact that they are more especially intended for the alleviation of the sufferings of the poor, and the greater part of the work done is in affording relief from acute diseases and emergencies requiring surgical aid. Attention is thus detracted from delicate nervous affections and is almost wholly engrossed in caring for sufferers from other diseases and injuries. Besides, association with the charity cases that abound in such places and the evidences of suffering present on every hand, are enough to prevent all improvement in sensitive and sympathetic invalids.

Perfect equipment is an important part of the battle in the cure of nervous affections.

ELECTRICITY IN NERVOUS AFFECTIONS.

Electrical applications, to be beneficial, require on the part of the attendant, a technical knowledge of the highest character with costly

Fig. 5.



Our Franklin, or Static Electricity, Machine.

apparatus and special appliances. There can be little doubt that electricity is convertible into nerve force.

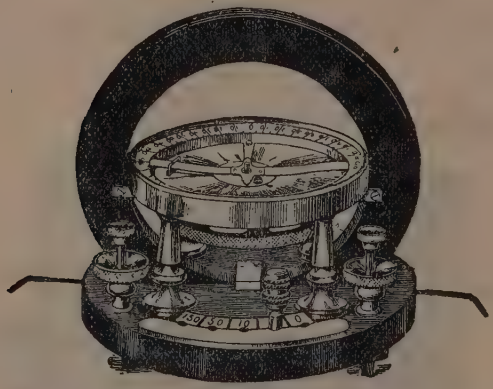
In treating cases in the Invalids' Hotel, a large variety of batteries, dynamos and other electrical appliances are brought into use. These consist of cell batteries, such as is illustrated by Fig. 4, dynamos, operated by power, Franklin, or static electrical machines, illustrated

in Fig. 5, and other electrical apparatus, the choice of the particular machine or battery being determined by the nature of the case.

CARE AND SKILL REQUIRED.

Electricity, like other powerful agencies, in order to prove remedial must be used of proper strength and in proper quantity. The potential, or strength, as well as the volume, or amount, of current has to be carefully measured for that purpose. To accomplish this, we employ an instrument called a galvanometer, or amperemeter, illustrated in Fig. 6, which indicates the exact amount of current being applied. For the want of such instruments to measure the current, physicians often fail to get beneficial results, as they are not able to administer either the

Fig. 6.



The Galvanometer, or Amperemeter.

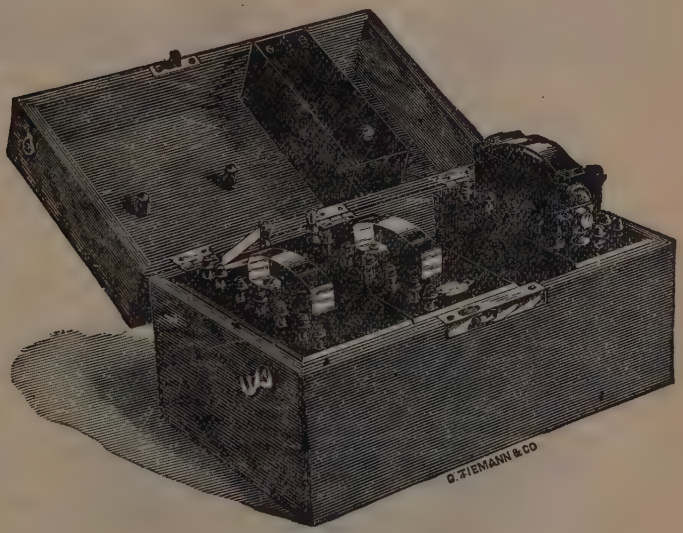
proper quantity or quality of current. Ofttimes, for like reasons, their hap-hazard way of employing this powerful agent does positive injury to the patient.

Of course, in treating cases at a distance, we cannot avail ourselves of all the great variety of apparatus brought into use at our Invalids' Hotel, yet we have some forms of machines well adapted for home use, and so simple that, by sending plain printed directions with the machines, our patients are able to use them effectively without the aid of the physician. Especially is this true in the milder forms of nervous disease, and when great exactness and nicety of application is not so important. We show in Fig. 7 and Fig. 8, two forms of such batteries which are often furnished our patients for use at their homes. Many times, after cases are under treatment here for a while, we are able to educate them in the use of the battery so that by taking one of these home with them they can continue the treatment with good results after leaving the Institution.

ORGANIC, OR ANIMAL, EXTRACTS AS REMEDIES.

The experience of Pasteur, Brown-Sequard, and our own specialists, in the use of extracts of nerve substance and of certain glands and organs by hypodermic or subcutaneous injection of these fluids, has, in a vast number of cases, been most gratifying to both physicians and patients. Many wonderful cures have thus been obtained. Injected subcutaneously these animal extracts are immediately assimilated and we are often able to stop, at once, the progress of disease and turn

Fig. 7.



A small Battery for home use.

the tide towards recovery. Thus the cells receive the special stimulants upon which their life and activity depend.

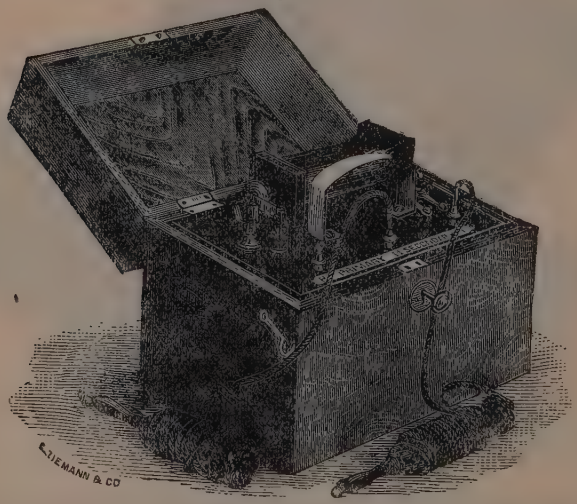
The animal extracts employed in our Institution are all scientifically and carefully produced in our chemical laboratory under the direct supervision of an experienced chemist, and are believed to be superior in quality. They are turned out fresh, as wanted, which is important, as all such preparations, no matter how carefully made and put up, deteriorate with age.

These extracts are made from the glands and organs of the lower animals, as from the brain, spinal cord, heart, testicles, ovaries and some other organs and parts of bullocks, rabbits, guinea pigs and other animals. That they possess properties which exert most potent tonic, or invigorating, influences upon those organs and parts of the

human system corresponding to the organs and parts of the lower animals from which they have been extracted, no longer admits of doubt. In cases of partial and even complete impotency, especially in elderly men, attended with nervous exhaustion, most astonishingly favorable results are obtained by our specialists through the administration of our extracts obtained from the nerve tissue of the spinal cord, associated with the use of the expressed juices from animal testes. We do not, however, prescribe these extracts to the exclusion of other well tested remedial agents, but do regard them, especially in the more confirmed and obstinate cases, as among our most positive curative agents.

We must confess that when first proclaimed by Brown-Sequard as valuable remedial agents, we regarded the use of these extracts with

Fig. 8.



A small Battery for home use.

a good deal of skepticism, but experience is, after all, the best teacher and we were forced, after numerous successful tests, to admit their great efficacy. We have always endeavored to keep up with the vanguard of the army of medical reform, and so took early occasion to introduce these agents into our practice and made preparations to produce them in our laboratory.

From an article written by an eminent specialist in nervous diseases, and recently published in the New York *Medical Journal*, we extract the following:

"Organic beings possess the power of assimilating from the nutritious matters they absorb the peculiar pabulum which each organ of the body demands for its

development and sustenance. The brain, for instance, selects that part which it requires, the heart the material necessary for its growth and preservation, and so on with the liver, the lungs, the muscles, and the various other organs of the body. No mistake is ever committed. The brain never takes liver nutriment, nor the liver brain nutriment; but each selects that which it requires. There are, however, diseased conditions of the various organs in which this power is lost or impaired, and, as a consequence, disturbance of function, or even death itself, is the result."

"Now, if we can obtain the peculiar matter that an organ of the body requires and inject it directly into the blood, we do away with the performance of many vital processes which are accomplished only by the expenditure of a large amount of vital force."

"Let us suppose a person suffering from an exhausted brain, the result of excessive brain-work. Three hearty meals are eaten every day, but, no matter how judiciously the food may be arranged, the condition continues. Now, if we inject into that person's blood a concentrated extract of the brain of a healthy animal, we supply at once the pabulum which the organ requires. Then, if under this treatment the morbid symptoms disappear, we are justified in concluding that we have successfully aided Nature in doing that which, unassisted, she could not accomplish."

"That is the syetem. I believe it is applicable not only to the brain, but to all the other organs of the body."

The writer of the above is, very probably, a little over sanguine in his opinion that the plan of treatment will prove efficacious in all organic diseases, but certainly, from our experience, we can endorse his belief as to its great efficacy in many forms of organic weakness, especially those of the generative organs, nervous system, heart and some other parts of the body. We believe that we are placing a conservative estimate upon the remedial value of these animal juices, or extracts; when we say that they are destined to fill an important place in the curative resources of the specialist in chronic diseases.

Under the head of epilepsy, also in connection with our consideration of locomotor ataxia, we shall have occasion to refer to the use of these extracts as applicable to the cure of those maladies.

Most cases of nervous diseases that come to us, for examination and treatment, do so after having tried, without success, treatment by baths, enforced seclusion, as well as unskillfully applied electrical treatment and massage. Prolonged medication has frequently aroused digestive disorders and made the patient hate the sight of the medicine bottle. In such cases our improved methods, as applied in the Institution and also prescribed for patients at a distance, enable our specialists to give relief and effect cures with a minimum of medicine. They also enable us to treat many cases of nervous diseases heretofore regarded as almost hopeless, such as locomotor ataxia, paralysis, epilepsy and spinal affections, with a degree of success which has been very gratifying alike to physicians and patients.

HEADACHE AND NEURALGIA.

There is no ill to which flesh is heir that is the source of a greater degree of discomfort to the human race than headache. The farmer, housewife, banker, merchant and laborer seem to be equally prone to the affliction and all who suffer have a great number of days rendered uncomfortable and unhappy by the presence of this most unpleasant affection. Pain is the warning finger of disease—the threatening indication of coming trouble. In headache, we have an indication that the system is subjected to some strain or injurious impression. It may be that the eyes have been overworked or the brain unnaturally taxed; or that the nervous and physical systems have not been properly refreshed by sufficient sleep, and have used up the residue of reserve power. Many suffer from headache only after they have been subjected to sudden changes of temperature and have taken cold; others only when the bowels have become inactive, the liver torpid and the blood vitiated with retained poisons.

All appreciate the discomfort that results from this malady and earnestly seek for permanent relief.

Headaches may be divided in two classes: (1) those due to the presence of poisons in the blood, and (2) those due to irritation of various organs, as of the eyes, stomach, liver, and intestines.

Of the first form, or variety, of headache, influenza, or grip, and acute "cold in the head," are the most common causes. These give rise to most excruciating pain. There is congestion, followed by inflammation in the nasal passages and cavities communicating therewith. The membranes of these passages throw out a thin, watery, irritating discharge, which gradually thickens and becomes pus-like and offensive in character, if the disease continues.

Poisonous matters are absorbed from the affected surfaces into the blood. These poisons, circulating in the blood, produce great irritation of the nerve cells, so much so, that the severity of the attack is felt in the nervous centres, the brain and spinal cord, with pain varying from the most acute and sharp, to a dull, numb ache. The temples, eyes, neck and small of the back, are in their order, the usual locations of greatest pain. Such attacks vary in frequency and severity. One attack is usually followed by an early recurrence, which may be more or less severe, while the period of active pain varies from a few hours to several days. Such attacks leave an exhausted state of the nerve centres and general weakness of the system that often lasts for weeks, and may permanently impair the system, except such results be prevented by appropriate treatment. Every recurrence of the attack leaves the system in a worse condition, until profound nervous prostration ensues.

Malarial headache, sometimes termed "brow ague," is a common form of the malady with those residing in malarial regions. The pain rapidly develops, usually over one eye. It lasts from five to ten hours, and is often of frightful intensity.

Other forms are rheumatic and gouty headache; usually a heavy aching pain appearing on the approach of storms, but at times almost continuous, made worse by improper diet.

Uræmic headache is due to kidney disease, and alcoholic to direct irritation of the brain membranes from the use of alcoholic beverages. The latter is accompained with much irritation of the stomach and intestines.

Headaches of a similar character result from the presence in the blood of an excess of the active principles of coffee and tea.

Overindulgence in these agents, as with alcohol, affects the nerve cells and membranes, often causing severe attacks of headache.

Nervous headache is another common affliction. This seems to arise from several causes, such as improverished blood and exhaustion from overwork of the brain. Hysterical headache is not uncommon. There is a severe kind of headache, the attacks of which appear first at early puberty and continue at intervals more or less frequent in women up to the change of life and in men to about the fortieth year.

The periodical headache is usually preceded by yawning, chilliness, languid, exhausted feelings, in others by peculiar emotional or mental activity. This is followed by unusual drowsiness, in which the night's rest is broken by dreams, and from which the patient awakes tired. Gradually, during the day, the headache develops, beginning in the eyes or bones over them. It gets more and more severe, shooting into the jaws and neck or extending to the back of the head and spine. As the pains get most severe, nausea or vomiting, often repeated, follow, in which the contents of the stomach, with mucus and bile, is ejected. The whole paroxysm lasts from five hours to two or even three days.

Neuralgic headache is a common variety; often the pain is not confined to the head, in fact neuralgia may affect almost any part of the system.

NEURALGIA.

Neuralgia is an affection of the nerves, of which the chief symptom is pain. This is of variable intensity and character. It follows the course of the affected nerve and its branches, and occurs in paroxysms, of agonizing pain with periods of intermission during which the pain may be very slight, and cause but little discomfort.

The severe pain is described as lancinating, cutting, tearing, burning, boring and pressing. Patients use different words in describing the attacks, and there is probably a difference in the character of the pain, though in a severe paroxysm one is scarcely able to make a very nice distinction. We have known cases in which the pain occurred suddenly and overwhelmed the patient's fortitude by its severity and anex-

pected onset. Between the paroxysms there may be less severe pain, which is then more frequently of an aching, burning or pricking character. In some, paroxysm after paroxysm succeed each other with almost lightening-like rapidity, and even in the intervals the pain is very intense. At another time there is only one sharp sting of pain, which attacks recur several times an hour or day, or may be absent for days or months. An extended freedom from all pain is rare in a patient very much affected. The first attacks in all forms of neuralgia are often comparatively light, and the severity of the pain gradually increases as the attacks multiply. We have frequently had patients unacquainted with anatomy. map out the distribution of a nerve very perfectly, simply describing the portion of the body in which the pain was experienced. For convenience, the neuralgia has been named with reference to the nerve most seriously attacked; lumbago to the spasms of pain affecting the small of the back; tic-douloureux is a term applied to neuralgia of the fifth nerve, that supplying the side of the face, with branches to the eyes, jaw, and teeth. Neuralgia of the testicles, ovaries, stomach, heart, are frequently met with. That affecting the large nerve supplying the thigh and leg is termed sciatica. These nerve affections often prove a most grave disorder, rendering the life of the sufferer a burden.

Treatment. Contrary to opinions frequently expressed by members of the medical profession, we find that most cases present some removable, or remediable, cause for attacks of headache and neuralgia. The temporary relief that is obtained by the use of "headache powders," various bromide combinations, caffeine and other anodyne and narcotic medicines, is sometimes necessary in order that the excruciating sufferings may be borne for the time, but as a rule such remedies only react unfavorably by interfering still further with the natural restoration of the affected organs, or protract the removal of the cause of the disease. Hence, the next attack is usually earlier in its appearance and more severe and lasting when such agents are employed.

The great majority of headaches and neuralgias are due to the presence of poisons in the blood. This may be due to affections of the blood-making, or blood-purifying organs.

For the correction of inactive blood-making glands, or a lack of purification of the blood, due to such cause, the use of Dr. Pierce's Golden Medical Discovery is particularly beneficial. It has no equal in its direct effect upon the liver, the great purifying organ of the body. Through this natural gateway, it removes from the system poisonous materials which are the waste from the nerve cells. The accumulation of these waste materials irritates the cells and causes them to cry out with pain. The blood, being properly purified by the use of "Golden Medical Discovery" supplies to the nerves, and to the nerve cells, what they crave—a healthy and rich blood that furnishes

proper nourishment. Hence the headache disappears, and the neuralgic pains are overcome.

When the liver is engorged and torpid, the intestines become overloaded with fecal matters that putrefy and give rise to gases and consequent distention. Deleterious poisons are formed and absorbed by the blood from such hardened and irritating lumps in the intestines. When the bowels are thus constipated, Dr. Pierce's Pleasant Pellets are necessary as an adjunct to the "Golden Medical Discovery." The "Pellets" remove from the intestinal canal all irritating materials and thus enhance the alterative, or blood-cleansing, action of the "Golden Medical Discovery."

In women, when there is a nervous affection, dependent upon some unnatural state of the ovaries or uterus, and complicated with an imperfect or unnatural circulation in those parts, we have noted that most satisfactory results invariably follow the use of Dr. Pierce's Favorite Prescription. This agent improves the tone of the nervous system, and by its direct restorative tonic effects, lessens, or overcomes, any congestion of the womb or its appendages, regulates menstruation and promotes a condition of health and vigor.

In a vast experience, our specialists have thoroughly tested a great many specific remedies which we prescribe for home-treatment, sending the necessary remedies to our patients by express or mail, carefully adapting them to each individual case. Many sufferers have been, by a brief course of our home-treatment, relieved permanently from excruciating sufferings that had been a source of annoyance and loss of time for many years prior to the use of our remedies.

Our treatment is intended to effect permanent cures. We do not use those narcotics and compounds of antipyrine and other similar agents which are very depressing in their effects, and, like morphine and other preparations of opium, give only temporary relief, and interfere with the action of the heart, but we use treatment that builds up the system, removes the cause of the difficulty and restores the nervous system and all the organs of the body to a normal and healthful condition.

In some cases we advise treatment in our Institution, where we have every facility in the way of electrical appliances and many other aids that can only be employed by the personal attention of a skillful physician. These aids are more fully described under the head of nervous exhaustion and a reference is also suggested to what we have to say under the heads of paralysis and locomotor ataxia.

Headaches or neuralgic pains, due to local irritations, as uterine disease, stricture, neurotic or nerve tumors, pressure of trusses, eye strain from weakened eye muscles, or lenses that need the help of proper spectacles, require for a permanent cure the removal of the cause. Sciatic neuralgia, one of the most common and painful forms of nerve irritation, is particularly amenable to treatment by the modern means of cure used in our practice at the Invalids' Hotel.

We find, as a rule, that severe headaches and neuralgias are but the forerunners of more serious conditions, and are therefore deserving of special attention. They should be corrected as early as possible, before any organic changes have occurred.

PARALYSIS OR PALSY;

LOCOMOTOR ATAXIA AND KINDRED AFFECTIONS.

Paralysis is an affection characterized by loss of muscular power or by the sense of touch, taste, sight or smell becoming impaired from injury to a nerve by accident or disease.

The disease is sometimes due to simple lack of nerve force or power. This may come from interference with the blood supply of the nerve centres, as in hysterical palsy and reflex paralysis. Frequently the power of speech is affected in this way, ability to remember and difficulty in pronunciation of certain words being the most common. Certain affections of the womb and its appendages, in women, and, in men, stricture of the urethra, adherent prepuce, or foreskin, with wounds and injuries, many times of nerves and organs remote from the paralyzed points, cause the loss of power.

The Causes of Paralysis are very numerous. Whatever destroys, or impairs the natural structure of nervous matter, or whatever interferes materially with the conducting power of nerve-fibre, or the generating power of the nerve-centres, will produce a paralysis, the extent of which will depend upon the amount of nervous matter affected. Thus paralysis may be due to disease of the brain arising from apoplexy; to abscess, softening, syphilitic or other tumors, or epilepsy; to disease of the spinal cord, or marrow; to disease of the structures which surround the spinal cord, producing pressure upon it; to injury or compression of a nerve, by which its conducting power is impaired; to the effects of diphtheria, hysteria, or rheumatism. It may also be due to poisoning of nervous matter with opium, lead, arsenic, or mercury; or to the retention of poisonous substances which are generated in the living body and which should pass off through the excretory organs, as the elements of the urine and bile.

Members of consumptive families are very prone to paralysis.

We also find that the disease is often the result of some nervous strain, or over excitement. The over indulgence of the passions is particularly a fruitful source of injury to the brain and spinal centres. An angry man or woman uses up more nerve energy in a few minutes than would be sufficient to serve the muscles with stimulus through hours of toil.

The young, in unnatural indulgence of the sexual passions, waste the

vigor and energy of maturity. Sexual excesses must be put down as among the most prolific causes of this terrible malady. Ignorance shields no one from the consequences of violations of the laws of health.

The passion for wealth with its ceaseless toil, continuous strain, and rapid exhaustion of the nerve forces, usually brings its devotee into the same condition of discord as does the abuse of a stimulant. For a time the system will repair and bolster up the weakness, but the longer the day of reckoning is postponed, the more serious and terrible is the collapse.

Such individuals need only an exposure to cold, or an over indulgence of some kind, to suddenly precipitate a paralysis.

General Paralysis. This term is applied to paralysis affecting the arms and legs. In this form of paralysis there is generally more loss of motion than of sensation, and the mind is usually more or less affected.

Hemiplegia, or paralysis of one side of the body, is generally spoken of as a "stroke of palsy." Sometimes only one extremity, the arm, is affected. Only occasionally is the face involved. In the majority of cases the mind is affected, the memory being poor, the sufferer becoming melancholy, peevish, and fretful.

In paralysis of the right side, there is sometimes a curious forgetfulness or misplacement of language, the patient being unable to think of words to express his thoughts. This condition is called *aphasia*. It is usually the result of some injury or disease of the brain, almost invariably the side of the brain opposite the affected half of the body. In some cases it is due to a wasting, or softening, of the brain substance, on account of insufficient nourishment, a deficient supply of blood; whilst in others, it is due to just the opposite condition, an excess of blood, producing rupture of some blood-vessel, transudations, and pressure.

Paraplegia, or paralysis of the lower half of the body, is the result of disease of the spinal marrow. The paralysis may occur suddenly, but, in the majority of cases, it comes on slowly and insidiously, with weakness and numbness of the feet and legs, or with tingling and a sensation resembling that produced by ants creeping on the surface of the skin. By degrees the weakness increases, until there is complete loss of both motion and sensation in the feet and legs. The lower bowel and bladder are generally involved, and as a result, the patient suffers from constipation, and retention and dribbling of urine. Although completely paralyzed, the patient is often tormented with involuntary movements and cramps in the affected muscles.

Paraplegia may be caused by various injuries of the spinal cord; by congestion, degeneration, or hemorrhage; by pressure from thickening of the sheath of the cord, or from tumors, or from disease of the bones and cartilages of the spinal column. Paraplegia may also be produced through reflex action, by an irritation, or injury to some organ or part

of the body distant from the spinal cord; thus, irritation of the skin, or of the bowels from the presence of worms, or disease of the bladder or of the womb, may produce paraplegia.

LOCOMOTOR ATAXIA.

Locomotor ataxia, or creeping palsy, is also called progressive paralysis. This affection consists of a disease of the nervous matter in the posterior columns of the spinal cord. It usually affects first the lower part of the cord, and those portions of the nerve matter that supply the muscles of the legs. In other cases it first affects the portions of the spinal cord that supply the arms. In most cases of this disease there is an early stage in which the patient suffers from "lightning pains," as they are called. These are of a severe, stabbing, boring character, very sudden in their onset, and at times so serious as to have induced suicide. These paroxysms, in the milder form of the disease, are not so severe, and are readily controlled by anodynes. They may affect the stomach, and be mistaken for dyspepsia, or the rectum, and be taken for fissure or piles. At times they affect the bladder, when the symptoms are not unlike those of stone or cancer. In many cases we find the patient has been treated for a long period of years for rheumatism, sciatica, or neuralgia, when the real disease has been this progressive paralysis in its earlier stage. Sometimes the disease takes the form of spermatorrhea or impotency; in other cases it is manifested in weak eyes, disturbances of vision, or cross-eyes. Sooner or later, there appears the peculiar paralysis of the disease, which consists of more or less numbness of the feet and legs, and, in the later stages, of the hands and arms, sometimes of the face. As a rule, however, the patient finds difficulty in properly maintaining his balance, and in walking his movements are tottering, like a man partially intoxicated. It is difficult for him to maintain his balance and walk with his eyes closed. If the arms are affected, their movements are uncertain. In guiding a needle or in buttoning or unbuttoning the clothing, there is an inability to move the hand with rapidity and certainty, or to any portion of the face or body if the eyes be closed. The eyes and attention must be constantly directed to the motion that is about to be performed, or it is imperfectly done. The brain centres in this case supply the weakened action of the spinal cord, and the stimulus to the muscles is directed by the intelligence instead of being automatic, as in health, and due to spinal action. Still later, the voluntary movements become spasmodic or jerking. The neuralgic pains often become very distressing; there is often a sense of constriction around the limbs or body, as if they were encircled with tight cords. In extreme cases locomotion becomes impossible, the patient is unable to bring the hand to the mouth, and the speech may become impaired, articulation being difficult and imperfect. In all cases there is more or less loss of sensation in the lower limbs, the patient generally being unable to distinguish between two points and one, even when the

two are a considerable distance apart. The inability to feel the contact of the ground or floor with the feet occasions the difficulty in walking.

The causes of this disease are somewhat obscure, but unquestionably exposure to cold and dampness, and over-mental work, are largely instrumental in its production. Scrofula and syphilis favor its development, while abuse of the nervous system, such as results from over-indulgence of the animal and reproductive instincts, are frequent sources of the nervous changes that lead to ataxia.

SHAKING PALSY.

Shaking Palsy, or Paralysis Agitans, is an affection dependent upon degenerative changes in the nervous centres. It is characterized by a tremulous agitation, or continual shaking, beginning in the hands, arms or head, and gradually extending itself over the entire body. The disease progresses slowly, but when far advanced the agitation is violent, and the patient swallows and masticates his food with great difficulty. In an advanced stage of the disease, the body becomes bent forward, and the chin almost touches the breast-bone. The tremor, which early in the disease only occurred during the time the patient was awake, now continues during sleep, and not infrequently the agitation becomes so violent as to waken the sufferer.

GENERAL TREATMENT OF PARALYSIS.

The indications of treatment for the various forms of paralysis are to remove the causes, if these can be determined, and rouse the functions of the paralyzed parts. Measures should be adopted to remedy the morbid conditions upon which this affection depends. Keep the skin clean and healthy, promote the circulation of the blood, especially in the paralyzed limbs, and encourage healthy nutrition. These ends may be best attained by the daily employment of stimulating baths and frictions upon the surface. As much regular exercise as the patient can bear without fatigue should be taken in order to favor the preservation of the appetite and strength. Care should also be taken that the bowels are evacuated regularly every day. The circulation through, and consequently the nutrition of, the palsied muscles may be aided by having a strong healthy person knead and manipulate them. These manual movements upon the surface of the body will often excite muscular sensibility, similar to that awakened by a weak Faradic current. The internal medicines should be such as to regulate the general functions of the system. The use of these remedies must be directed by the skill and experience of those who are professionally qualified to administer them.

When the patient has been able to be under our personal care at the Invalids' Hotel, we have found the employment of mechanical movements and manipulations, applied by means of a variety of machinery,

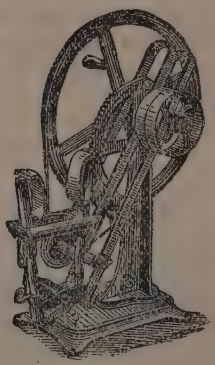
employed in this Institution, together with the use of the equalizer, or large dry cupping, or vacuum apparatus, to be of the greatest benefit. These several machines and apparatus furnish a perfect system of physical training, thus rendering valuable aid in the cure of many forms of obstinate chronic diseases. A few of these machines are shown in Figs. 9, 10, 11, 12, 13, and 14; also see page 32 of Appendix.

The general practitioner often endeavors to overcome the inertia of the nerve-centers and nerves by means of specific irritants, with the view of exciting the power-producing function, of compelling the weakened and disabled centers to evolve more power. By such stimulation

Fig. 9.

Manipulator Extended.

Fig. 10.

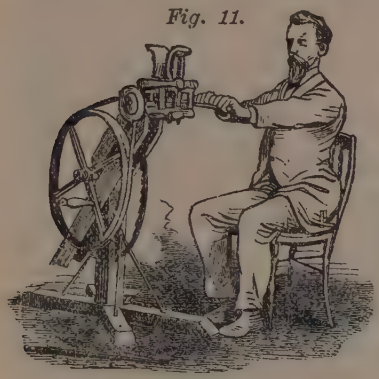


Manipulator Folded.

and forcing, he places a burden on the weakest parts. The compulsory and ineffectual endeavor of the weak parts to act in response to such stimulation is very liable to make undue drafts upon the capacity to act, which only end in exhaustion of the little remaining power instead of its re-enforcement. Cases which were previously curable by direct and appropriate means, are thus forever placed beyond the reach of remedies. No powerful stimulating or depressing medicines are indicated in any of the various forms of the affection. In paralysis it should be our aim to improve local and general nutrition, to relieve local congestions and inflammations, to produce absorption of deposited matters, and to force an abundance of blood through palsied muscles, from which they may derive a proper supply of nutriment, and to which they may give up the products of waste. All this can be accomplished by massage, mechanical movements, regulation of the atmospheric pressure on the body, baths, and proper physical culture.

In paralysis, there is a diminution or total loss of the contractile property of the muscles to which the affected nerve fibers are distributed; consequently the capillaries and small veins are not compressed, as in health, and the blood is not forced on through them towards the heart; hence there is a backing-up of the circulation, passive congestion, and all the evils incident to that condition ensue.

Fig. 11.



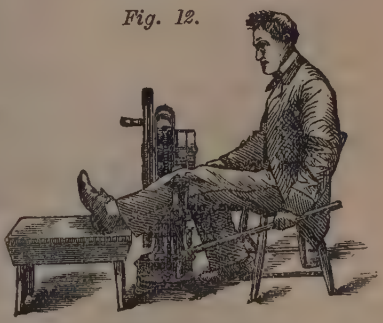
Oscillating the Arms and Chest.

Mechanical movements properly applied to the affected limbs, or parts of the body, accomplish the same results as contraction of the muscles. They compress the capillaries and veins and thus force the blood on through these vessels towards the heart. There is a constant pressure in the arteries, hence the flow of blood in the capilliaries is always towards the veins, and, when it gets into the veins, it is prevented from flowing back by the valves in those vessels.

A proper circulation of the blood through the disordered parts is thus effected, and, as the result, they receive an abundance of nutriment, and their waste products are promptly carried away to the excretory organs, by which they are separated from the body; the deposits of fatty matter between the muscular fibers are absorbed, and the agglutinated fibers are separated.

As proof of these statements, it has been found by experiment and observation that there is an increase of temperature, in the parts subjected to this action, which *must* be due mainly to an increase in the chemico-vital changes that are superinduced by the nutritious elements of the arterial blood, particularly that element which is supplied to it by the inspired air, oxygen. All the products of waste are increased. The skin becomes more soft and moist, showing that the amount of matter eliminated by it is increased. The urine becomes more abundant, and the relative amount of urea, its most important constituent, becomes greatly increased. The amount of carbonic acid gas exhaled is increased, and further evidence in the same direction is furnished by

Fig. 12.

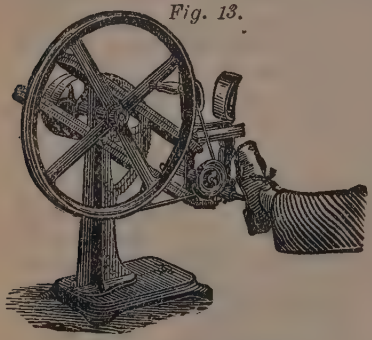


Rubbing the Legs.

the very marked increase in the inspiratory acts, necessitated by the increased demands for oxygen.

The local increase of the circulation incident to properly applied mechanical movements, must produce a corresponding diminution of blood in other, even in remote, regions of the body. Thus this treatment, by its revulsive effects, is capable of relieving various disorders of the head, chest, digestive organs, and pelvis. Nowhere, however, is the effect more satisfactory than in affections of the brain and spinal cord, whether characterized by loss of power, of sensation, or by neuralgic pain. Any portion of these nerve centres suffering from congestion, will find prompt relief in mechanical vibratory movements.

Fig. 13.

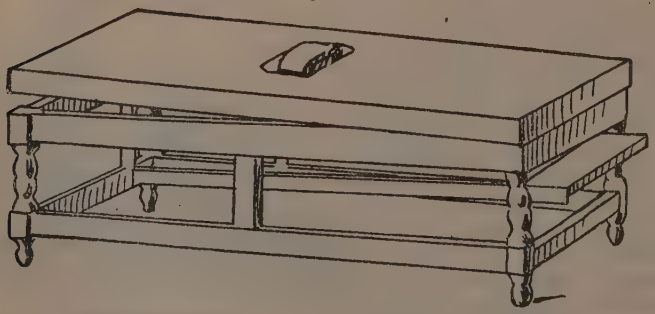


Oscillating the Legs.

The Movement Cure which we advocate is not a "Swedish Movement Cure," nor anything akin to it. It is the application of remedial forces by complex structures, which combine a variety of mechanical powers. The inventions are solely American.

By means of this machinery, which is driven by steam power with great velocity, we are able to apply *soft, pleasant, rapid vibrating movements* over the surface of the body, and thereby increase the circulation of blood through the parts, raise the temperature, and excite pleasant

Fig. 14.



Apparatus for Rubbing in a Recumbent Position.

sensations. The movements can be applied by our ingeniously-devised machinery to any part of the body through the clothing and *without the least exposure of the person.* They can be administered in a great variety of ways, by light, quick percussions, by gentle frictions, by rub-

bing, by oscillations, by kneadings, by circular movements, in fact, by an almost *endless variety* of reciprocating and alternating motions, which, if described, would convey to the mind of the reader but a faint conception of their remedial value.

Vibratory Motion not only establishes activity of the circulation through the skin and muscles, but it also affects profoundly the circulation in the important and vital organs of the body; it is thus capable of overcoming torpidity or congestion of the liver, spleen, and other deep-seated organs, without the depressing effects which sometimes follow the administration of powerful medicines.

It has not been our purpose to literally explain, in detail, the methods of applying vibratory motion in the treatment of paralysis for popular experiment, since to be successful one should become an expert, not only in this mechanical treatment, but also in the diagnosis of the various forms of paralysis, as well as familiar with their causes, pathology, and remedial requirements. Thus, to be successful in the treatment of paralysis and other nervous diseases, by the application of motor forces with our ingeniously-contrived machinery, the cost of which is beyond the means of most invalids, one must exercise great discretion.

Gratifying Success. Not only is vibratory motion as a remedial agent rational and philosophical, but our experience has fully demonstrated its marvelous effects in the treatment of paralysis in its various forms, and also in the cure of other chronic diseases. We have cured cases of infantile paralysis which had resisted the skill of the most renowned physicians in our country. We have treated those who could not stand or bear the weight of the body, but who have been so far restored as to be able to walk and run without assistance. Writer's and telegraph operator's paralysis, or cramp, we have cured in a few weeks' time. Club-feet, spinal curvature, and other deformities resulting from paralysis, have been successfully treated in our Institution. In short, our success has been most flattering in all curable cases of paralysis, and it is such experience that induces us to hold out encouragement to those who are afflicted with paralysis and other nervous affections.

Vibratory motion is a desideratum of priceless value to those who are afflicted with diseases of the nervous system, as well as to all others who need a gentle stimulus to call forth their latent energies and improve their physical condition.

RECAPITULATION.

Motion, properly transmitted to the human system by mechanical apparatus, is transformed into other forms of force identical with vital energy, by which the ordinary processes of the system are greatly promoted.

It increases animal heat and nervous and muscular power to the normal standard.

It removes engorgement or local impediments to the circulation.

The electrical induction produced, renders it a most efficacious remedy for paralysis of all kinds.

It removes interstitial fluids and causes rapid absorption and disappearance of solid and fluid accumulations.

It is a powerful alterative, or blood-purifier, increasing oxidation and stimulating excretion.

It diminishes chronic nervous irritability and promotes sleep.

It hardens the flesh by increasing muscular development and improves digestion and nutrition.

ANIMAL JUICES, OR EXTRACTS.

The use of animal, nerve and gland extracts has proven of surprising efficiency in the treatment of paralysis and locomotor ataxia. They furnish a pabulum in concentrated form for the nourishment and restoration of the weakened nerve cells and fibres.

In the vast majority of cases, we have been able, by the use of these recently discovered curative agents, when assisted by other means at our command at the Invalids' Hotel and Surgical Institute, to arrest the progress of these nervous affections, hitherto so generally considered incurable, and bring about restoration of the paralysed functions and a renewal of lost power.

These comparatively new remedial agents have been very thoroughly tested by us. Their merits are more fully considered in a preceding chapter of this treatise, under the head of treatment for Nervous Exhaustion, or Debility.

EPILEPSY ("FITS").

Epilepsy, or falling sickness, is a disease which is characterized by attacks of sudden loss of consciousness, together with convulsive movements of the muscles. The paroxysms occur at irregular intervals, the periods between them, in some cases, being only a few minutes or hours, while in others, several months elapse.

There are two classes of Epilepsy: 1st. The general form, with a convulsion that usually involves all the muscles of the body simultaneously. It begins suddenly with little or no warning, commonly with a cry or scream. The convulsion may last several minutes and is followed by a deep sleep for some hours.

2nd. The local or Jacksonian form in which the attack begins with a peculiar sensation in some particular region of the body, either in one extremity or one half of the face. This sensation is followed by a twitching of the muscles of the part. The sensation and spasm extend or advance gradually to other parts. Consciousness is not usually lost, though it may be when the spasms culminate in a general convulsion.

Great weakness generally follows in the parts convulsed, gradually passing away. When the attack begins on the right side of the face it is associated with an immediate inability to speak.

Symptoms. In the severe forms of the disease, the subject suddenly loses consciousness and falls; there is rigidity of the muscles, which causes a twitching of the face and limbs; the eyes are turned up, and there is foaming at the mouth. In the severe form of the disease, the respiration is arrested, while in the milder attacks, the breathing is difficult, slow, deep, and snoring. With the commencement of the spasm, the tongue is sometimes caught between the teeth and severely bitten. During the paroxysm, the countenance changes from a livid hue to dark purple. The convulsion continues from one to three minutes, and is followed by a deep, sighing inspiration; the subject then sinks into a deep sleep, which continues for half an hour or longer. When consciousness is first regained, the subject appears confused, stupid, and usually complains of headache. He has no recollection of what has occurred during the attack, he pronounces words indistinctly, and if he attempts to walk, he staggers like a drunken man. Sometimes, several attacks occur so closely together that there is no interval of consciousness between them.

In some cases, there are premonitory symptoms, such as giddiness, drowsiness, headache, and irritability of temper, which warn the subject of an approaching paroxysm. Occasionally, a wave of cold commencing at the feet and proceeding to the head, is experienced. This is called an *aura*. When it reaches the brain, the subject be-

comes unconscious, falls, and the convulsion commences. If the disease be allowed to proceed unchecked, it almost invariably leads to great impairment of mind, insanity, or paralysis.

Causes. The *predisposing causes* are an hereditary tendency to the disease, and everything which impairs the constitution and produces nervous prostration and irritability. Syphilis, phimosis, sexual abuses, uterine disease, and the use of alcoholic liquors are prominent predisposing causes. Many of the causes treated by us have been brought on by masturbation. Others are the results of injury to the head. Often fracture of the skull is followed by epileptic attacks.

The exciting causes include everything which disturbs the equilibrium of the nervous system. Indigestible articles of food, intestinal worms, loss of sleep, great exhaustion, grief, anger, constipation of the bowels, piles, and uterine irritation may be enumerated among such causes. Convulsions of an epileptic character may also be induced by a poisoned condition of the blood, from malaria and disease of the kidneys or liver.

Treatment. When the time of an expected paroxysm approaches, great care should be exercised that the patient be not suddenly attacked while carrying a lighted lamp, or that he does not fall in some dangerous place, strike upon a heated stove, or in some similiar way inflict great injury. If there be warning symptoms before the attack, the subject should carry a vial of the *nitrite of amyl* in the pocket, and, when the premonitory symptoms are felt, two or three drops should be poured on a handkerchief and held about an inch from the nose and inhaled, until flushing is produced, or a burning sensation is felt in the face.

During the paroxysm, the subject should be laid on the back, with the head slightly elevated, and the clothing about the neck and waist, if tight, should be loosened. If there be sufficient warning, a folded napkin, or a soft pine stick covered with a handkerchief or cloth, should be placed between the double teeth, to prevent the tongue from being bitten. During the fit, the head may be bathed with cold water.

A person who suffers from this disease should avoid everything which tends to excite the nervous system, or increase to any great extent the action of the heart. The sufferer should go to bed at regular hours, and take at least eight hours sleep. The sleeping-room should be large and well ventilated, and the patient should lie with the head elevated. All indigestible articles of food should be avoided and the diet should consist principally of bread, vegetables, milk, and fruits. Meat should be taken but once a day, and then in very small quantities. The use of alcoholic liquors and coffee should be avoided, and tea only taken in small quantities. The bowels should be regulated with Dr. Pierce's Pleasant Pellets and injections, if necessary. A thorough bath should be taken once or twice a week. If the attacks occur at night, the body should be sponged before going to bed with tepid

water, to which should be added sufficient tincture or infusion of capsicum, or red-pepper, to render it stimulating to the skin.

The causes, if they can be determined, should be removed, and those remedies administered which relieve nervous irritability and cerebral congestion. If due to worms, the proper remedies should be given; if to phimosis, the subject should be circumcised; if to pressure on the brain, from fracture of the skull, trephining should be practiced, and the depressed bone raised. There are no *specifics* for this disease; each individual case must be treated according to the condition presented. The nostrums advertised extensively over the country as specifics for this disease, while they may, in some instances, prevent the attacks for a short time, irritate the stomach, impair digestion, lower vitality, and permanently injure the system, often rendering the disease incurable. They deceive the sufferer, leading him to think that his disease is being cured, until it progresses so far that he is beyond the reach of any treatment. As a rule, the longer the disease progresses, the more difficult it is to cure.

Epilepsy has by many physicians been regarded as incurable, but our extensive experience has convinced us that by an appropriate course of treatment, the *vast majority* of cases can be cured. The animal extracts, or juices, herein more fully described under the head of treatment for Nervous Exhaustion, have proven curative in some cases that have resisted other remedies. This treatment requires the personal attention of a physician skilled in its employment. It is also of first importance that the extracts be properly made. We have discovered several new remedies, which undoubtedly exert a powerful curative influence over this disease, but it is necessary to vary the treatment so much in different cases, that it would be useless to enter further into details in this treatise.

Surgical Treatment. A considerable proportion of those cases of epilepsy, termed Jacksonian, have been found to be caused by new growth upon, or in, the substance of the brain. Sometimes cysts form as a result of small hemorrhages, or of spots of softening from clots in the cerebral arteries. Other cases are due to a small spot of hardened tissue or an inflamed centre of irritation in the outer gray matter of the brain.

The majority of these forms of disease can be exactly localized in a small area of the brain, and may usually be traced to a blow or fall on the head, or to fracture of the skull without depression. The discovery of the fact that such results of injury will produce localized spasm has naturally lead to the conclusion that similar products anywhere in the brain may give rise to epilepsy. In these cases trephining of the skull and the removal of irritation from the brain has been followed by the most successful results. It is seldom a serious or dangerous operation, but very few deaths having resulted in the practice of good surgeons in many hundreds of cases, and these were in-

dividuals who were not favorable for operation, and in whom it was undertaken as a last resort.

In these cases of epilepsy, due to injury, the operation is fairly safe, and in carefully selected cases that have not been allowed to run so long as to bring upon the brain a general epileptic tendency, the results of operation are good and the procedure warrantable.

See Testimonials from a few of the many cures effected by our Specialists.

CHOREA (ST. VITUS'S DANCE).

This disease is an affection of the nervous system, which is characterized by spasmodic contractions of certain muscles. It may affect the entire body, although it is usually confined to the left side, or to a special group of muscles.

Symptoms. Twitchings of the muscles of the face are the most conspicuous symptoms. They are at first comparatively slight, but as the disease progresses, these spasms become more decided, and the face is twisted into various shapes and forms. The head, in some cases, is constantly jerking. It is with great difficulty that the tongue is thrust out of the mouth, and then, with a sudden jerk, it is quickly withdrawn.

These spasms or contortions, may affect the extremities in a similar manner, the hands and arms cannot be kept quiet, the gait may be unsteady, and one foot is merely dragged after the other. If one limb be forcibly held, to keep it quiet, some other limb will involuntarily move. Strange as it may appear, these contractions, which cannot be controlled by the will during wakefulness, are very much lessened or arrested by sleep.

Prior to the development of the spasmodic affection, there is usually a period in which the sufferer notes a want of appetite, languidness, with disinclination towards mental or bodily pursuits, headache, restlessness, pains in the limbs and joints, with irritable temper and weakness of memory. There are many other symptoms in special cases. As the disease develops, the patient gradually begins to exhibit an awkwardness of movement in the extremities, and objects frequently fall from the grasp. Children thus afflicted, spill their food while eating, and it becomes difficult for them to stand still. Attempts to write, sew, or draw are imperfectly performed. Such children are very often punished for supposed ill-behavior or careless habits. Later on the symptoms become more unmistakable, and the presence of the disease is readily recognized. The patient may become incapable of dressing, and the limbs and face are no longer under the control of the will. Uncontrollable movements of the fingers, hands, shrugging of the shoulders, dancing of the legs, grimaces of the face, and distortions of the body, become more or less constant. Speech and swallowing may be seriously embarrassed. Any unusual excitement of the mind or

body is apt to intensify the muscular twitchings. Severe mental application, the reading of exciting books, the witnessing of entertainments, and excessive indulgence in sports, have to be discontinued.

The most common causes seem to be exhaustion of the nerve centres, due to the appearance of the second teeth in children and the development common to the age of puberty. Other causes may be briefly mentioned as follows: rheumatic affections, constipation, a morbid state of the blood, suppression of the menstrual function, uterine difficulties, masturbation, or self-abuse, blows, injuries, or any cause which would give rise to nervous debility. Sometimes it is caused by obstruction in the alimentary canal, or by intestinal worms.

Treatment. The disease is one in which there is a debility of the nerve centres, complicated with a lack of assimilation and digestion. There is no affection more amenable to treatment in its early stages than this. We are daily in receipt of correspondence from sufferers, or their parents, or friends, in which the most gratifying relief and a cure has resulted from the use of Dr. Pierce's Favorite Prescription used in conjunction with Dr. Pierce's Golden Medical Discovery. These two remedies should be used alternately, the dose being suited to the age of the patient.

A large majority of the cases of chorea occur in females and at the period of life when the nervous system is subjected to unusual requirements. In these cases the "Favorite Prescription" effects a gradual restoration of nervous energy, and improvement in the tone of the nerve centres, and by its direct effect upon the circulation in the ovarian region, eliminates the most potent causes of debility. In young people, we usually advise a dose of three drops for each year of the age. For instance, children of eight years of age should take twenty-four drops; those of twelve, thirty-six drops; those of fifteen, forty-five drops, which is about two-thirds of a teaspoonful. A similar dose of Dr. Pierce's Golden Medical Discovery should be administered, taking it before meals, and the "Prescription" after meals. Under their administration the patient will rapidly improve in health and strength; the circulation is materially bettered, the blood is purified, enriched, vitalized. The remedies effect a complete removal, from the blood, of the impurities that represent nerve waste, and as a consequence the nerve cells are properly nourished. The disease is gradually controlled, and when the favorable influences of quiet, nourishing food, with plenty of out-door air, and not too active exercise is added, the progress is most gratifying. The patients, in a few weeks, are able to control much of the spasmodic movements, and gradually their restoration to a normal condition is accomplished.

In occasional cases, where there is some complication, as rheumatism or other severe affection, complicating and preventing their recovery, special treatment is required. We are always ready to advise in regard to such cases when consulted either by mail or in person.

TESTIMONIALS.

If the following letters had been written by your best known and most esteemed neighbors they could be no more worthy of your confidence than they are now, coming, as they do, from well known, intelligent and trustworthy citizens, who, in their several neighborhoods, enjoy the fullest confidence and respect of all who know them.

Out of thousands of similar letters received from former patrons, we have selected these few at random, and have to regret that we can find room only for this comparatively small number in this little book.

NERVOUS AND GENERAL DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

Gentlemen—I am thankful to-day that I can honestly say, that as a result of your few weeks' treatment, I feel better now in both body and mind than I have for fifteen years. Before I consulted you I felt more like taking my own life to end my miserable feelings than I felt like living; I had given up all hopes of ever being any good to myself or anybody else, but, thank God, your encouragement, and kind words, and skillful treatment have made a different man of me.

T. M. CARSON, ESQ.

Before I consulted you, I took no interest in business nor any thing else in the world, which the wise Creator has placed in this world for all mankind to enjoy; but now my mind is clear, and I take an interest in business and enjoy life better than I ever did before.

Now, may God bless you for your good and skillful treatment of me; and, also, may this be the means of inducing others who are to-day suffering from the same complaint to at once consult you, as I can assure them that they will receive full benefit of your kind attention, for moderate charges.

Yours respectfully, T. M. CARSON,
P. O. Box 145, Swissvale, Allegheny Co., Pa.

NERVOUS DEBILITY.

Special Treatment, Followed by use of "Golden Medical Discovery."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Ltd., 3, New Oxford Street, London, W. C.:

Gentlemen—I now write to describe the benefit which I have received from your treatment. For some time I had been suffering from nervous debility, and before placing myself under your treatment my trouble was very severe; and not understanding the nature of my disease, I did not know what to do until I saw a few testimonials of your wonderful cures, when I was led to at once communicate with you; and after two months' special treatment from you, I was greatly relieved, and was advised to then use Dr. Pierce's Golden Medical Discovery, which I did for a time, and am happy to say that I now feel like another man, and am troubled no longer with the old symptoms, and I thank God, and also the kind gentlemen that have been conducting my case, for the treatment and advice which I have received. I also think the "Golden Medical Discovery" is a most wonderful medicine, and I shall feel it my duty to speak well of your medicines and treatment to all fellow sufferers I may meet. I am,

F. MACEY, 95, West Street,
Faversham, Kent, England.

F. MACEY, ESQ.

NERVOUS DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

A. E. NORCROSS, ESQ.

Gentlemen—Two and a half years ago, after seeking in vain for health at the hands of local doctors, I began treatment with you for "Nervous Debility" of a complicated nature. As a result thereof I now give this testimonial, having been changed from a person of rapidly declining health—often despondent and with no inclination to work of any kind, to one of sound constitution who enjoys life and is once more able to battle his way to success in life; and it is now about two years since the change occured, showing it to be permanent.

I cannot say too much in praise of your methods, and careful, courteous attention which myself and others have enjoyed at your hands; and that the good work may go on to an unlimited extent is my earnest wish.

Yours sincerely,

A. E. NORCROSS,
(General Delivery), Detroit, Mich.

NERVOUS DEBILITY, DYSPEPSIA, HEART DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

MISS GREENWELL.

Gentlemen—I feel very grateful to you, and to our all-wise Creator for restoring my health. When I first wrote to you I was a miserable sufferer with nervous debility, dyspepsia, heart disease, also female weakness. I was so nervous and low-spirited I could not sleep, in fact I was just about as weak and low as I could be, and could scarcely drag around; but, after persevering for about twelve months, occasionally with the help of your kind treatment and advice, I once more begin to feel like myself again. Words cannot tell how I do appreciate my health.

Thank you, gentlemen! I shall never forget the kind business-like manner in which you have treated me. May God bless you, inasmuch as your heart's desire is to do good to suffering humanity.

Very truly, MISS K. GREENWELL,
No. 252 Twenty-second St., Ogden, Utah.

NERVOUS DEBILITY—RESULT OF INDISCRETION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

C. H. GOODSELL, ESQ.

Gentlemen—For the last year and a half I was troubled with Nervous Debility. I tried some medicine that I bought from the druggist, which did me little or no good; so, hearing of the World's Dispensary Medical Association, of Buffalo, I wrote them about my case, and in reply, they said they were sure they could cure me. At that time I was weak in my arms and legs, had poor sight and, worst of all, I was very nervous and bashful. I could not sleep at night and feel refreshed in the morning. I could not look any one in the eye without feeling ashamed.

I have now taken two months' treatment and I feel sound in mind and body; but to be sure I am going to take another month's treatment from these same doctors in Buffalo.

I recommend all men who are afflicted with any disease similar to the one of which I have just been cured to apply to the World's Dispensary Medical Association, and if they take treatment from these doctors they will surely be cured. I cannot praise them too much for what they have done for me.

Yours truly, C. H. GOODSELL,
No. 151 S. W. Temple St.,
Salt Lake City, Utah.

NERVOUS AND GENERAL DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

T. W. KNAPP, ESQ.

Gentlemen—I had been out of health for a period of about three years. Suffered with pains in the head, catarrh, chills, fever, nervousness, and general debility. Spent about all the money I had in order to obtain relief, but received little, if any good. I was scarcely able to work, when in July, 1887, I wrote to your Association, describing my case. You replied, advising me, and prescribing a course of treatment, which you sent to me. After taking but a part of these medicines I began to feel a great deal better; could sleep very much better and was able to resume work as usual, but still suffered some pain in head, and my back was lame and weak. I continued treatment for some three or four months, until all remaining symptoms of distress and weakness had disappeared. At the end of about eight months I found I felt as well as I ever did. My weight had increased fully twenty pounds, and I could safely say that you had effected a perfect cure in my case.

Respectfully yours,
THOMAS WESLEY KNAPP,
Myhart, Allen Co., Ind.

NERVOUS AND UTERINE DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

Gentlemen—I was sick for over three years with nervous complaint, with blind dizzy spells, palpitation of the heart, pain in the back and head, and at times would have such a weak tired feeling when I first got up in the morning, and at times nervous chills. At other times, I would feel as if there were a tight bandage around my forehead.

The first physician I went to said I had nervous dyspepsia; the next one did not say what he thought ailed me; the third said I had dyspepsia, but none of them did me any good. As soon as I commenced taking Dr. Pierce's Favorite Prescription, I began to get better; could sleep well nights, and that bad nervous feeling and the pain in my back soon left me. I can walk several miles without getting tired. I took in all, three bottles of the "Favorite Prescription" and two of Dr. Pierce's Golden Medical Discovery.

Yours truly,
MRS. JENNIE WILLIAMS,
Mohawk, Lane Co., Oregon.

MRS. WILLIAMS.

NERVOUS AND GENERAL DEBILITY.

W. C. DILLON, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663 Main St., Buffalo, N. Y.:

Gentlemen—When I applied to you for medical treatment I was in a very bad state. Your suggestion that I use Dr. Pierce's Golden Medical Discovery was followed with good results, and I can say I felt the effects of it before the first bottle was finished. The dull pains in my back were leaving me very fast. I used three bottles of the "Golden Medical Discovery." I had a dull pain in the back, restless sleep followed by very trying dreams, appetite poor, weakness, consequently very easily tired. Now I can go about my work, walk twelve or fifteen miles a day and not feel tired. When I commenced to use your "Golden Medical Discovery" I only weighed 125 pounds; now have increased to 150.

Yours respectfully,
W. C. DILLON,
Box 63, Woburn, Middlesex Co., Mass.

NERVOUS DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

Gentlemen—I had been ailing for months and did not know what was the matter. I had a heavy and languid feeling; dimness of sight, spots and flashes before my eyes; an "all gone" feeling in my stomach as if the bottom had fallen out; was nervous and irritable and felt like sinking down when at work. I could hardly get up in the morning; it seemed as if I were more tired then I was when I went to bed. My appetite at times was ravenous, and at other times the smell of food made me sick; I would often go from the dinner table and vomit. I would have spells when it seemed that every man was my foe and would be melancholy, and think that something was going to happen to me; was easily upset, could not get my mind to stay on anything long at a time. When I read about your remedies, I made up my mind to try them. After taking one month's treatment I felt better, and kept on until I had taken three months' treatment and was made a new man. I would advise any one who is in bad health to do the same, and will assure them that Dr. Pierce is a gentleman, and will do just what he says, as he did in my case.

M. H. MOORE, ESQ.

Yours truly, MARIS H. MOORE,
Ocean City, Cape May Co., N. J.

NERVOUS AND GENERAL DEBILITY.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—My case was a complication of diseases—a general break-down, lasting three years. I placed myself under the treatment of four different physicians. At last, giving up all hope of recovery at home, I was making arrangements to go to a Sanitarium in Michigan for special treatment. One of your small books with blank enclosed was handed to me; I filled out the blank, and thought I would try rather than leave home and little ones,—"Happy decision;" two months' special treatment and I was well and happy, and to-day, I have the very best of health.

Yours respectfully,

MRS. LOMA LINN,
Ladoga, Montgomery Co., Ind.

MRS. LINN.

NERVOUS AND GENERAL DEBILITY.

J. THOMAS, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Had vertigo, or dizziness. Pain over right eye. Vomiting sometimes, severe pains in arms, from elbows to shoulders, pain in left side. Numbness of the fingers. His home physician said "will run into paralysis." Analysis of the urine shows phosphatic deposits. Began treatment with specialists of Invalids' Hotel and Surgical Institute, in August, '87; used the remedies interruptedly for about six months. Writes May 11th, '89, "have not had a dizzy spell for a year." In October, '90, writes, "the dizzy spells have gone for good, I hope." November 9th, '93, reports, "I most willingly recommend your medicines for they cured me of those dizzy spells of long standing, after four doctors in this county had treated my case for three years, without benefit."

Respectfully yours,

JASPER THOMAS,
Alamosa, Conejos Co., Col.

IRRITABILITY AND EXHAUSTION OF THE NERVOUS SYSTEM, RHEUMATISM AND HEART DISEASE.

Cured by Six Bottles of the "Golden Medical Discovery."

C. A. ROBERTS, ESQ.

Mr. C. Allison Roberts, of Cassville, White Co., Tenn., suffered a great deal from rheumatism, he says: "Legs ached more like toothache than anything I can think of, the thigh bones throbbing and paining; had pains in hips, back, arms and shoulders. His symptoms also showed that the heart was affected. Had chills, headache often and sometimes sick headache. Bowels were costive and irregular. Food distressed and could not eat meat; urine milky; coughed in early part of night, and feet and legs would become numb. Had difficulty in getting to sleep before midnight, and was restless through the night and dreamed much. Had sinking spells which lasted for thirty minutes. Turned pale, became trembly and sometimes vomited his food.

Almost immediately after beginning the use of the 'Golden Medical Discovery" the headache ceased. After using four bottles, reported that he had been benefited by the remedy. Later he reported: "I have been in reasonable health for some time. I took six bottles of the 'Golden Medical Discovery' and it cured the rheumatism entirely. I had suffered with it for several years and found no relief until I used your medicine. Have no weak nor nervous symptoms now, and no spells of turning sick at the stomach, or of bad action of the heart, palpitation, etc."

NERVOUSNESS, "FEMALE WEAKNESS," NASAL CATARRH.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—My health was utterly gone. Was suffering from nervousness, female troubles and nasal catarrh; life was almost a burden to me, but a glorious change came, due solely to Dr. Pierce's Favorite Prescription and Dr. Sage's Catarrh Remedy. I have suffered more than tongue can ever tell. I have been treated by good physicians but they only help me temporarily. I have taken a great many patent medicines with the same result. In 1890, I began taking Dr. Pierce's Favorite Prescription and Dr. Sage's Catarrh Remedy, which gave me immediate relief and a permanent cure.

Respectfully,

MRS. BELLE SANDERSON,
Sprout, Nicholas Co., Ky.

MRS. SANDERSON.

NERVOUS DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

J. F. RITTER, ESQ.

Gentlemen—It is now about six months since I discontinued your treatment, and as I have had no return of the old symptoms, I consider it unnecessary to take more medicine. When I visited your Institution some two years ago, I had but faint hopes of ever being restored to health, as I was suffering from a complication of diseases. My case was an unusually obstinate one, yet I am satisfied that a cure could have been accomplished in half the time, had I been able to follow your directions in regard to diet more closely. I hereby tender you my sincerest thanks for the kind treatment received while at your Institution. Those days will always be the happiest in my memory. I will close by giving your faculty my sincere thanks, and hope success will crown your business.

Yours very gratefully,

J. F. RITTER,
Medford, Jackson Co., Oreg.

NERVOUS DEBILITY. SPECIAL TREATMENT.

W. TRUMBETTA, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Ltd.,
3, New Oxford Street, London, W. C.:

Dear Sirs—In reply to your kind inquiries regarding my health, I am only too glad to say that I am better than I ever was. Before taking your medicines, I experienced great nervousness, loss of appetite, restless nights, taking no interest in my work; had pale complexion, with hollow cheeks, sunken eyes and loss of memory. I only took your special treatment for about two months, and received great benefit from taking it, but still go on taking your "Pellets" when required. I am sorry to say that I have not got a photograph before taking your medicines, or I should have been glad to send it to let you have seen them both before taking your medicines and after. I remain

Yours sincerely,

W. TRUMBETTA.

84, Essex Street, South Heigham, Norwich, Eng.

NERVOUS PROSTRATION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

Gentlemen—It is now sixteen years since I suffered from that terrible disease, nervous prostration. I suffered untold agony and thought I would go insane. Had a terrible burning sensation across my shoulders, and my head felt large as two, and as if there was a hole from one ear to the other and all sounds passed right through. I could not see, nor sleep, nor scarcely eat, and was that nervous the least thing made me angry. I was treated by our home physician and given up as incurable. At that time I saw your Memorandum Book and thought I would write you, and the result of it was you took my case.

After one month of your valuable remedies I felt like a new person, and after six months was restored to good health again after suffering nearly one year of untold agony.

I would heartily recommend all and every one suffering from any chronic disease to place their case in the hands of the World's Dispensary Medical Association, of Buffalo, N. Y., as I cannot praise your treatment too highly. Words are inadequate to express the gratitude I owe you in so successfully treating my case.

MRS. E. A. NORTHROP.

Respectfully yours, MRS. E. A. NORTHROP,
South Main Street, Newark, Wayne Co., N. Y.

GENERAL AND NERVOUS DEBILITY.

J. W. STOCKING, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

My Dear Sirs—I believe that I am free from all the troubles that you have been treating me for. The pain in my back is gone—my digestion is good. In all truth I can say *I am a man again!*

I can stoop without pain—can labor without that weak and tired feeling. I am truly grateful to you for the good that you have done me, and may you reap a rich reward for the good you have done for suffering humanity, is my sincere wish.

Truly yours,

J. W. STOCKING,

Panama, Lancaster County, Nebr.

NERVOUS DEBILITY AND VARICOCELE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y..

Gentlemen—I commenced treatment, I think, in July or August, of 1888, and continued four months. My case was nervous debility of fifteen years' standing.

I tried home doctors but found they were only aggravating my case. I also tried the Remedy Company, then of St. Louis, who claimed to perform wonderful cures with their "Pastiles," but they proved utterly worthless. Having come in possession of Dr. Pierce's little book and circulars, a perusal of the same convinced me that my health would not be trifled with at his Institution.

D. A. WALTON, ESQ.

I was a poor man and could not afford much experimenting. I ordered one month's treatment, and at the end of this first month, I found, to my surprise, that I was feeling different. The second month, still more surprised at my returning health. Third month thought I was cured, and engaged myself to a young lady, and wrote you to that effect, and you advised me with your congratulations to marry, and to order another month's treatment; and at the end of the fourth month I was a *man*, something I did not know what it would be like to be before.

I have now been married five years, and have two healthy children—a boy and a girl. I would never have dared to marry had it not been for your medicines. I must add that during this treatment I was troubled with varicocele on left side. I wrote you this at third month of treatment, and you sent without extra charge, a Suspensory and Lotion, and two months' treatment cured me sound and well of this distressing malady; I have not felt the least symptoms of its return.

I want the world to know what a competent and honorable firm the World's Dispensary Medical Association is. I would love to shake you by the hand. May God let you continue to be a help to mankind is my prayer.

Yours truly,

D. A. WALTON,
Marion, Grant County, Ind.

NERVOUS DEBILITY AND VARICOCELE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I can bear testimony to the removal of varicocele, for which you treated me. I had been in the habit of getting out with the boys and trying to see which could kick the highest with one foot on the ground, and it caused me to have varicocele. I went to my home doctor and he treated me with no success. It was getting worse all the time and I got out of shape all over. My health got bad and I thought my case hopeless. I had tried two doctors and received no benefit.

I had one of your little Memorandum Books in my pocket, and one day, looking through it I saw you treated such cases, and wrote you and received word in a few days that you would treat me, so I sent off for one month's treatment; and in five months I had gained my weight back, and that was eight years ago and I feel sound and well and my health has been good ever since.

You are at liberty to use my testimony in whatever way it may be of most benefit to you.

I also enclose a photograph of myself that was taken soon after your treatment.

With feelings of much gratefulness, I am,

J. L. RIDINGS, ESQ.

Very truly yours,

J. L. RIDINGS,

Clarence, Shelby County, Missouri.

R. M. BASCOM, ESQ.

NERVOUS DEBILITY. INDIGESTION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—It is now about thirteen months since I discontinued your treatment, and I have no return of the old symptoms, I consider it unnecessary to continue treatment. When I commenced taking your medicine I was suffering from nervous debility, indigestion, dyspepsia, etc. After using your medicine one month I am perfectly healthy, and cheerfully recommend your Institution to suffering humanity.

Yours truly, R. M. BASCOM,
Sunfield, Eaton County, Mich.

NERVOUS DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—It is now about five years since I received a two months' treatment for my case and I have had no return of the symptoms. I consider it unnecessary to take more medicines because I am gaining strength every day. I am healthier than I have been in fifteen years, and I thank you for the kind favor you have done me in my case, and I wish that all sufferers would send to you for treatment.

Yours respectfully,
FRANKLIN ZERBE,
De Turksville, Schuylkill Co., Penna.

F. ZERBE, ESQ.

NERVOUS DEBILITY, DYSPEPSIA, CONSTIPATION.

Blackstone, Nottoway Co., Va.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Dr. Pierce's Golden Medical Discovery and "Pleasant Pellets" made a perfect cure of me. I increased in weight from 120 pounds to 150 pounds and my strength increased in proportion. It improved me so rapidly that my friends inquired what produced such a change in my general appearance and health. Some accused me of dissipation. When I told them it was your medicine, the drug stores found a ready market for it, and continue to sell it with increased sales.

Yours truly,

R E. Jones

O. A. CONKLIN, ESQ.

NERVOUS AND GENERAL DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I was a great sufferer from nervous and general debility. I applied to you by letter for advice and received from you medical treatment for three months, which completely restored me to health; the course of treatment did not interfere with my usual vocation and was not difficult to follow. I am a well man to-day and take pleasure in advising all the afflicted to consult you at once, and feel sure they will, like myself, be well pleased with your treatment.

Yours truly,
O. A. CONKLIN,
Ravenna, Muskegon Co., Mich.

H. CULVER, ESQ.

NERVOUS DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—After taking the two months' treatment which you sent me by mail for that broken-down condition, usually styled "Nervous Debility," attended by the usual symptoms such as headache, sleeplessness, confusion of ideas, etc., the above symptoms have so entirely disappeared that I do not consider it necessary to continue the treatment longer. I would say further that I am satisfied that you understand your business, and would advise anybody suffering from any chronic disease to avail themselves of your skill in preference to resorting to any other source known to me.

Yours respectfully,
HERMAN CULVER,
Port Angeles, Clallam Co., Wash.

GENERAL AND NERVOUS DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I am very thankful for what you have done for me. The treatment which you furnished me a year ago gave me great relief. I had been suffering for many months with general and nervous debility, with headache, languor, sleeplessness, indigestion, constipation, etc., which were increasing upon me. One month's treatment gave me perfect relief, and I am now like a new person. I can heartily recommend all young men to consult your staff when in need of medical advice.

Respectfully yours,
WM. H. COON, Medina, N. Y.

WM. H. COON, ESQ.

NERVOUS DEBILITY AND CATARRH.

Big Piney, Pulaski Co., Mo.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I was treated by you eleven years ago for nervous debility and chronic catarrh of eight years' standing and of a very aggravated nature. I was considered near my grave by many of my friends when I commenced treatment. I used eight months' special treatment, after which I used some 12 or 15 bottles of your Sage's Catarrh Remedy, and have had excellent health ever since.

Yours truly,

B. P. Drake

G. RANKIN, ESQ.

NERVOUS DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—For about five years I was troubled with Nervous Debility. I was weak and nervous, and my appetite poor. I saw your advertisement in a newspaper and concluded to write to you. I took your medicine for nine months, and at the end of that time, I had gained thirteen pounds, was much stronger, my nervousness had left me and I felt well and strong. I am sincerely thankful for the great help I received from you.

Yours very truly,
GEORGE RANKIN,
New Castle, Lawrence Co., Pa.

NERVOUS DEBILITY.

Richville, St. Lawrence Co., N. Y.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—After two years of perfect health I write to you thanking you for your treatment.

I had suffered several years from Nervous Debility, and had tried various remedies, and been treated by different physicians, but received no benefit from them. I ventured to write to you, and after taking a month's treatment and following your Hygienic rules, I am now fully recovered and never felt better in my life.

May God spare you for many more years, for the sake of suffering humanity.

Yours respectfully,

Evan P. Jones.

EDW'D UELBRICK, ESQ.

NERVOUS DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—In 1887, I had occasion to visit your Invalids' Hotel and Surgical Institute for a course of treatment. I am happy to state that my case was cured to my entire satisfaction, and that I always think with gratitude of the kind treatment received from the hands of doctors and nurses. While there I became acquainted with many undergoing treatment for various chronic and surgical diseases, and all were unanimous in their praise of the Institution.

Reapectfully yours,
EDWARD UELBRICK,
White Oaks, N. M.

NERVOUS PROSTRATION; RHEUMATISM; CONSTIPATION.

Colebrook, Litchfield Co., Ct.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I desire to express my heartfelt thanks for the great benefit you have done me. About ten years ago I contracted rheumatism, from which I suffered dreadfully at times. Was also troubled with chronic constipation; had been from boyhood. Had doctored more or less for years without any great benefit until I consulted you and commenced taking your Special Remedies. After taking three courses of your medicines I was so far improved in health and strength that I considered it unnecessary to continue it longer.

Wishing you much success in your great work.

Yours truly,

W. H. Loveland

NERVOUS DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—So much of my good health is due to the excellent treatment I received from the Invalids' Hotel and Surgical Institute, that I take the greatest pleasure in recommending all the afflicted to this famous Institution.

I was run down and a great sufferer from nervous debility. The remedies put up by the specialist of this Institute so suited my case, and so improved my health, that I soon felt like a new man. My gratitude is so heartfelt that I cannot speak to my friends and to all the afflicted in too high praise of the skill of the physicians of the World's Dispensary Medical Association and of the great benefit to be derived from their treatment.

Yours truly,
LEVI RAKES,
Plattsmouth, Cass Co., Neb.

L. RAKES, ESQ.

T. J. CARDER, ESQ.

NERVOUS DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I was suffering with a very severe nervous debility and general weakness, and after using your splendid treatment for four months, I find myself perfectly cured.

Respectfully yours,
T. J. CARDER,
Pacific Grove, Monterey Co., Cal.

NERVOUS PROSTRATION.

Severe Palpitation of the Heart.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I am feeling quite well. I have taken Dr. Pierce's Golden Medical Discovery and "Pellets," and I can truly say they have done me more good than anything I have ever taken. I keep the "Pellets" in the house all the time. Respectfully,

MRS. LAURA E. MOORE,
Wolfborough, Carroll County, N. H.

MRS. MOORE.

G. POSSON, ESQ.

NERVOUS DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—My health had been gradually failing for years. I could not sleep nights and was very nervous, and I was depressed in spirits and was entirely unfit for business. The principal cause was over-work. Through the influence of friends I began your treatment and continued it three months, and at the end of that time I felt so much better that I did not continue it longer.

And I can cheerfully recommend your mode of treatment to every sufferer. Sincerely yours,

GEORGE POSSON,
Middleburgh, Schoharie Co., N. Y.

NERVOUS DEBILITY AND CATARRH.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I have enjoyed good health since I took your treatment. I suffered intense agony for five months, and after taking one month's medicine I found very much relief—so much I was surprised.

Many thanks for the good your medicines have done me, and my prayers are that God may help you in your good work, and that you may live long and prosper. Yours respectfully,

MRS. ALICE HOFFMAN,
Box 183, Clarksville, Butler Co., Iowa.

MRS. HOFFMAN.

NERVOUS AND GENERAL DEBILITY.

J. H. ROBERTSON, ESQ.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—I cheerfully give you statement of my case, with permission to use it for suffering humanity.

I am 54 years of age, strong, healthy, vigorous, well poised and manly,—happily married and the proud father of three fine children.

Six years ago I was a physical, mental and nervous wreck. Indiscretions indulged in without thought as to the result was the cause. I had become entirely unfit for business and social life. My errors began when I was 13 years of age and continued till I lost power. I never had any advice or treatment till six years ago, no sympathy or aid, no confidence to try, no courage to explain.

At that time Dr. Pierce's book fell into my hands. It gave me hope. I took his treatment six months and then married, and am to-day sound as a dollar and happy as a king. If I knew of a human being who was in the condition I was, I would cross the ocean to tell him my tale of joy, and put hope in his heart. Yours, JAMES H. ROBERTSON,
Fayette, Howard Co., Mo.

"A NERVOUS WRECK."

Nervous Debility, Exhaustion, Threatened Insanity.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—About six years ago, I had tried all the doctors in my part of the country with no satisfactory benefit. They did not understand my case.

I was a nervous wreck—unable to sleep—could not eat, and underwent the usual horrors that one endures where there is loss of control of the nerves. A few months more would have made me insane.

My cure has remained permanent. The relief was something that I cannot describe. It has enabled me to pursue my work steadily ever since, and I am more than happy to testify to the excellent skill and honorable dealings of your faculty and the fine appointments of your Institution.

Respectfully yours,
FAYETTE MOFFATT,
Hendrum, Norman Co., Minn

F. MOFFATT, ESQ.

NERVOUS DEBILITY.

Cured by "Golden Medical Discovery" and "Pleasant Pellets."

J. F. TURNER, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Ltd.:

Gentlemen—When I commenced your treatment I suffered with pains in the loins, and felt like a worn-out man. The slightest work caused me to perspire. I had a mist before my eyes—dreaded company, and had a very bad memory, which interfered greatly with my work. When I awoke in the morning, I was seldom without a headache. I commenced the use of Doctor Pierce's medicines, and have been completely restored to health. My best thanks are due to you for the manner in which you have treated me, and I hope that all those suffering like I did, will realise that a permanent cure awaits them if only they will apply.

Yours truly,
JOHN FREDERICK TURNER,
High Street, Baldock, Herts, Eng.

C. M. GATES, ESQ.

NERVOUS DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—About a year ago I found myself a victim of Nervous Debility. For some time I hardly knew what course to pursue, nearly every paper I might pick up contained some advertisement that would cure me. But believing in the old adage, "never expect to get something for nothing," I decided to write to an Association that *I knew* was reliable.

Acting accordingly, I took a course of four months' treatment, which I am pleased to state has given me in return a perfect cure. Thanks to the medical skill of your Faculty. Yours truly, C. M. GATES,
Girard, Macoupin Co., Ill.

NERVOUS AND GENERAL DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—After taking your second months' treatment I feel as though I am entirely cured. The trouble with my back is entirely removed; have gained in strength right along and have been working hard for the last two months. I cannot fully express my appreciation of your kindness and beneficial treatment. Yours truly,
A. CROWL,
Oneida Mills, Carroll Co., Ohio.

A. CROWL, ESQ.

T. M. HUTCHISON, ESQ.

NERVOUS DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Your letter inquiring about my health, came duly to hand a few days ago. In answer permit me to say that the three months' course of treatment effected a cure. Now my general health is good, body strengthened, mind clear, memory revived, and energy to work restored; cheerfulness and bright hopes, once lost, are now fully regained. My case was a complicated one of Liver disease and general effects of bad habits and usage, yet I was not too far gone to be restored by your wonderful treatment. My prayer is that you will ever prove a blessing to mankind.
Yours respectfully, T. M. HUTCHISON,
Forest Hill, Summers Co., W. Va.

NERVOUS DEBILITY.

Piles, Catarrh, Heart Symptoms.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—The effect of your remedies is little short of a miracle. My general make-up and appearance are astonishing; my cheeks rosy, eyes bright, circles nearly all gone from under eyes; am fleshier, stronger, more active, and an entirely different man. No piles, catarrh, heart trouble; no chills and fever; no despondency, no anything.
Yours truly,
JOHN TALBOTT,
Pennsylvania Agricultural Works,
York, York Co., Penn.

J. TALBOTT, ESQ.

GEO. W. BENHAM, ESQ.

NERVOUS DEBILITY

Resulting from Injury to Spine.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I take pleasure in saying that the Invalids' Hotel is the best institution in the world for the cure and treatment of all kinds of chronic diseases. I was afflicted for a long time before I went to your Institution for treatment, and I tried many doctors, but without avail. After being in your Institution two months, I was restored to health, and I am a well man to-day, and take pleasure in giving you many thanks. My difficulty was the result of injury received early in life, and it has been permanently and perfectly cured. With many good wishes and highest recommendations.

Respectfully yours,
GEORGE W. BENHAM,
P. O. Box 227, Seymour, Conn.

NERVOUS DEBILITY, DYSPEPSIA, AND OTHER COMPLICATIONS.

D. H. POFF, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663 Main St., Buffalo, N. Y.:

Gentlemen—I am now through with your last month's treatment. I have taken in all three months' treatment. When I first wrote to you I thought I was gone beyond the reach of recovery, but, thanks to God, I am to-day a sound man, heartier than I have been for years, and your Institution deserves the credit of it. I will forever remember you, and want you to publish this testimonial for the benefit of others, as there are thousands in the same fix that I was in.

Yours truly,
D. H. POFF,
Raleigh, Raleigh Co., W. Va.

NERVOUS PROSTRATION.

Everson, Whatcom Co., Wash.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—As regards your medicines I can truthfully say that I consider them good. Three years ago, I was much run-down with indigestion and nervous prostration. I purchased about four bottles of "Golden Medical Discovery" and "Favorite Prescription," and after taking them along with the "Pellets," I felt much improved. Indeed, my friends told me I looked like another woman.

Yours truly,
Mrs. Robt. Burns

W. SLATTERY, ESQ.

NERVOUS DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I am pleased to send you a testimonial regarding the perfect and permanent cure which you have effected in my case.

I suffered from Nervous Debility. The symptoms were prostration, sleeplessness, exhaustion, over-fatigue from mental trouble, overstudy and anxiety, indigestion, dyspepsia, constipation, headache, inability to concentrate the mind, general lassitude, melancholia, backache and pains from the top of my head to the sole of my feet. You treated me about twelve months and effected a *perfect cure*.

Yours respectfully,
WILLIAM SLATTERY,
Garden City, Finney Co., Kan.

HERNIA—LEFT INGUINAL—PRESENT EIGHT YEARS WITH NERVOUS PROSTRATION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

A. J. KIDDER, ESQ.

Gentlemen—I take greatest pleasure in making public the most wonderful cure I received at the Invalids' Hotel and Surgical Institute of Buffalo.

I had suffered severely for eight years with a left inguinal hernia; had tried many physicians and medicines, but found only temporary relief. I was greatly run-down, and my nervous system considerably shattered. My friends persuaded me to go to the Invalids' Hotel and Surgical Institute. While there I was operated on by their specialist, and in a few weeks began to gain strength and energy so that I could return home, and have since felt entirely well.

Words could not do justice to my feeling in regard to this institution. There is no place like it for medical aid, and I would urge all invalids to go there, feeling confident that they could no where receive more skillful treatment or more kind attention and care.

Respectfully,

A. J. KIDDER,
North Yam Hill, Yamhill Co., Oreg.

THICK NECK (GOITRE),

Nervous Debility and Weakness Cured.

MISS HOUGHTON.

MISS ELLA A. HOUGHTON, of *Theresa, Jefferson Co., N. Y.*, was cured of Thick Neck, Nervous Prostration, Weakness and a complication of ailments by Dr. Pierce's "Discovery" and "Favorite Prescription." She says: "My health is now as good as it was before I was sick. The swelling (goitre) has all gone from my neck. I don't have any bad feelings. My gratitude for the benefit I have received from your treatment has induced me to recommend you to all whom I know to be sick." "I have known of two or three middle aged ladies residing near here, who have been cured by your 'Favorite Prescription.'"

NERVOUS PROSTRATION, INCIPIENT CONSUMPTION.

Special Treatment Three Months.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Ltd., 3, New Oxford Street, London, W. C.:

W. FEASEY, ESQ.

Gentlemen—I feel it my duty to let you know the good your medicine has done me, after suffering for about six months with terrible pain, and so great weakness that I could not walk across the room, neither could I eat anything. I was nothing but a walking skeleton, and my friends said that I could not get better. Just at this time I was advised by a friend to try your special treatment, which I did, and am pleased to say that it worked like magic. I surprised all my friends, who said my improvement could not last, but I am happy to say that through your wonderful skill and God's blessing I am still alive and enjoying good health, and have now been quite well for about five years. It is a pleasure to work now, whereas, before taking your treatment it was a misery. I trust that these few lines will encourage other poor sufferers not to despair, and should anybody desire further particulars, I shall be most happy to furnish them, as I cannot speak too highly of your treatment. Thanking you a thousand times for your kindness and attention to my case, and trusting that your efforts to relieve the afflicted may be crowned with blessing, I remain,

Yours very truly,
W. FEASEY, Woodhurst Rye Mead,
Maidenhead, Berks, England.

"LIFE MISERABLE AT TIMES."

Nervous Exhaustion.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

J. W. DURHAM, ESQ.

Gentlemen—For several years I was a sufferer from some constitutional disease, or combination of diseases, which rendered life miserable at times. Dyspepsia, headache, dizziness, irritability and gloomy forebodings were among the symptoms I suffered. By chance, one of the pamphlets you publish fell into my hands, and I was induced to write you, describing my condition as best I could, and consequently I was treated by your Specialists.

When I had been treated for two months I felt so well and the symptoms were so far gone that I felt I was cured and quit taking medicine. As this was more than two years ago time has proved that I was correct, for I am a healthy, robust man to-day—thanks to you and to your associates in the noble Institution which you have established for suffering humanity.

Yours respectfully,

J. W. DURHAM,
Parkland, Jefferson County, Ky.

NERVOUS AND GENERAL PROSTRATION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

MISS MORRISON.

Gentlemen—It is with pleasure that I add my testimony to your list, hoping it may contribute to your success and induce others to avail themselves of the benefit of your invaluable medicines. In June, 1890, I took typhoid fever of malignant type; for two months I hovered between life and death; at length the fever left me in a prostrated condition. Then I was taken with a severe pain in my back and general nervous prostration; could not move myself in bed nor bear to be moved by the most careful nurses without experiencing excruciating pain. I had the best medical attention in the community, but they failed to give relief. My friends wrote to Dr. Pierce, stating my condition and requesting treatment for me. He treated me for two months; by that time I had so much improved that I did not think it worth while to continue the treatment longer, and my health has been such that I have not had occasion to lie in bed two days together since. I feel under lasting obligations to Dr. Pierce, and thank God for blessing the world with so able a physician. Very respectfully,

MISS MAGNOLIA MORRISON,
Abernethy, Iredell Co., N. C.

NERVOUSNESS, CATARRH, AND INDIGESTION.

E. A. BALDWIN, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663 Main St., Buffalo, N. Y.:

Gentlemen—For a long time I was suffering from indigestion, catarrh and nervousness. I was so run down that I could not go to school, and, as the various remedies I tried did me no good, I applied to you, and was advised to try a course of special treatment. After taking only two months' medicines from your noble institution, I feel perfectly restored to health. I have, moreover, recovered my lost flesh, and I am pleased to say need no further medicines.

Yours truly,

E. A. BALDWIN,
Proctorsville, Windsor Co., Vermont.

LOSS OF FLESH AND STRENGTH.

Nervous Prostration.

C. HOLMSTEDT, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I was run down entirely, losing my flesh and getting weak and nervous, and had hard work to draw a long breath; could hardly breathe at all, and came nearly dying once or twice. Had tried many kinds of patent medicines—many doctors, all in vain.

One day I saw an advertisement in a newspaper, about "If you are run down and losing flesh, use 'Golden Medical Discovery.'" I, like a drowning man, would grab at anything on sight. So I went to my druggist and asked him for "Golden Medical Discovery," and he had it and I bought one bottle and followed the directions and it did me good at first start; so I bought two bottles every month until I had used about six bottles, then I had my strength back and could draw my breath and felt like a new man. Yours truly,

CHARLES HOLMSTEDT,
Newtonville, Baraga County, Mich.

NERVOUS EXHAUSTION.

A Prominent Nurse and Student in Diseases of Females.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—One could scarcely discharge a more pleasant duty to a suffering fellow being than to direct them to a place of relief. Hence, I desire to state that a short time ago, life was almost a burden to me until I began taking treatment for nervous exhaustion from Dr. Pierce of the Invalids' Hotel and Surgical Institute, at Buffalo, N. Y., and can conscientiously say at the end of six weeks, I feel like another being.

I have also consulted Dr. Pierce on numerous occasions during the past eight years, and at no time whatever have I known his remedies to fail, more especially, his "Favorite Prescription," (which I have used in my practice), and the "Golden Medical Discovery," when taken according to directions.

These remedies will in no event disappoint. I am now in the enjoyment of perfect health—a blessing which I attribute to the kind Providence which directed me to the World's Dispensary Medical Association.

Yours gratefully,
SARAH BARNHARDT,
Grand Rapids, Mich.

SARAH BARNHARDT.

NERVOUS EXHAUSTION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

Gentlemen—It is over a year now since I applied to you for help and it is more than six months since I reported myself as well. I have worked very hard since then, and still have continued well all the time.

W. E. DIXON, ESQ.

When I called upon you for treatment I was in a terrible condition. I was subject to severe headaches; was troubled with a tired, an almost lifeless feeling, and although I slept, *I could not get rest.* I was nervous and fretful, and could not do as much work as I wanted to do. To tell it all in a few words *I was all run down.* I had never wholly recovered from the grip, which left me in a very poor condition; and that, together with over-work and insufficient physical exercise, had put me in such a condition that I was almost unfit to teach my school.

After five months' treatment (one month intervening in which I received none) I considered myself well, and I think that I was right. I feel very grateful to you for your treatment of me, and shall ever be willing to speak a good word for you.

Yours respectfully,
WILLIAM E. DIXON,
Harwich Port, Barnstable County, Mass.

NERVOUS EXHAUSTION.

GEO. S. WILSON, ESQ.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—After being troubled with my head for two years and taking treatment with ten different doctors and getting no help, I started for your city, but allowed myself to be talked out of seeing you by a man on the train; stopped off at Lancaster and saw Dr. ——, took one month's treatment with no benefit —grew worse.

After that, started once more, did not tell where I was going. I was a complete wreck—had to be helped on board of the cars. You looked me over carefully—you seemed to know just what the trouble was. Gave me medicine for a month's treatment. I came back home and took the medicine. Well, I was surprised the first week and have been ever since—gained right along. Have been well ever since and all for one month's treatment, for which I thank you very much.

Respectfully, GEO. S. WILSON,
Perry, Wyoming Co., N. Y.

NERVOUS EXHAUSTION.

Cayuga, Vermilion Co., Ind.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—It is now about eighteen months since I discontinued the use of your medicines. I can truly say I feel like a new man. I have none of that wakefulness at night, or the tired feeling when I get up of a morning. Now, I can work hard all day, go to bed at night tired, wake up the next morning rested and refreshed, though I took but two months' treatment; its value to me I am not able to estimate; before and during treatment I weighed about 160 pounds, and now I weigh 185 pounds. With many thanks and good wishes, I am,

Yours truly,

Geo. F. Howard

SEVERE NERVOUS PROSTRATION.

"Out of Darkness Into Light."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:

Gentlemen—About eighteen years ago, after the birth of one of my children I was left in a weak, run-down condition; it seemed to me that my nerves were unstrung very bad: I did not suffer much pain, but I think I suffered everything any one could suffer with nervousness; my life was a misery to me. I doctored with seven different doctors and got no relief; then I took almost all kinds of patent medicines and got no relief from them, but got worse all the time, when I chanced to get one of your little pamphlets.

I thought I would write to you, and waited as I thought to hear that there was no help for me; when my answer came and you said you could cure me great was my joy. I had taken your medicine about a month when I began to improve and in a few months was entirely cured.

My recovery was like coming out of the dark into the light, so great was the change. I will advise all sufferers to go to you for relief—I don't think they will be disappointed. When I commenced taking your medicine I weighed 94 pounds, now I weigh 125 pounds.

I do not know how to thank you for all the good your remedies did me. With heart-felt thanks I am,

Sincerely yours, MRS. AMANDA C. AUSTIN,
Burden, Cowley Co., Kansas.

MRS. AUSTIN.

P. S.—I have a lady friend who is taking Dr. Pierce's Favorite Prescription now, and last summer every one thought she was going with consumption; four of her father's family had died with it in five years: she has taken one bottle of "Favorite Prescription," and now she is better in health than she has been in three years. Her address is Mrs. Laura Paugh, Burden, Cowley Co., Kas. A. C. A.

C. GAUL, ESQ.

NERVOUS EXHAUSTION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663 Main St., Buffalo, N. Y.:

Gentlemen—For the last five years I have tried many leading doctors in this country but without avail. I gave up every hope. Your advertisement fell into my hands; at the time I did not know what to do because all my money had gone for medicine, but money was no object to me. I could not rest till I was cured.

Your treatment, which I received, cured me in a short time, and I am just as good as ever. I come before the public to advise anyone in need of treatment to give you the first chance, and he will find relief for I believe that nowhere can one obtain more skillful care or more kindly attention. Hoping that success will crown your business, I am,

Very truly yours,
CHARLES GAUL,
Muskegon, Muskegon Co., Mich.
care of "Warwick House."

NERVOUS PROSTRATION, SLEEPLESSNESS, DYSPEPSIA, AND RHEUMATISM.

Mr. J. T. TOWNSEND, of *Noah, Coffee County, Tenn.*, consulted us by letter. He was suffering from great nervous prostration; could not walk without tottering; was troubled greatly with inability to sleep; poor appetite; did not relish food; suffered much pain and stiffness in the joints; was overcome with heat working on a thresher, followed by persistent nausea, confusion of ideas, his memory being very defective.

J. T. TOWNSEND, ESQ.

After taking a single course of treatment, the medicines being sent by express, he writes as follows: "The medicine you sent me lasted me five weeks, and proved very beneficial indeed. I believe it, under God, was the means of saving me from a premature grave. When I received the medicine, I had just gotten rid of an attack of bilious fever, which left me in a deplorable condition. I was very week and nervous, but my improvement commenced with the first dose of your medicine, so by the time my medicine was out I felt better than I had for years, and now have no indication of a return of my trouble." A month later he writes: "I continue to enjoy the most perfect health. Every organ of my body, and every faculty of my mind, is in splendid condition, which makes life worth living. I have gained twenty-one pounds since I have been able to attend to business. Please accept my profound thanks for your promptness in sending me my medicines."

G. W. COLQUITT, ESQ.

NERVOUS PROSTRATION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663 Main St., Buffalo, N. Y.:

Gentlemen—It gives me pleasure to testify to your skill in the treatment of my case. When I applied to you last June, I was suffering all the horrors of nervous prostration, which was brought on by over-work and constant anxiety. I had no energy and no interest in business; rather an aversion to anything like work. My appetite was poor, indeed food seemed to distress rather than nourish. I felt tired and drowsy mornings; irritable and despondent; suspicious of every body and everything. After two months' treatment these unpleasant symptoms disappeared, and my health is better than it has been for twenty years.

I can never express to you my gratitude for your kindness, and would cheerfully recommend your Institution to all sufferers.

Yours truly,
GEORGE W. COLQUITT,
Palmetto, Campbell Co., Ga.

BAD CASE OF UTERINE DISEASE AND NERVOUS PROSTRATION,

Cured by Home Treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—It is with pleasure that I write to let you know the great benefit I have received from your medicines and self-treatment at home, which you kindly sent me, advising me to take your Dr. Pierce's Favorite Prescription and "Pleasant Pellets" and "Golden Medical Discovery" for my troubles. I did take your advice as near as I could; when I wrote my first letter to you, I had been treated by different doctors for twelve months and received but very little or no benefit, but had spent one hundred dollars for treatment and medicines.

MRS. GLASS.

My husband, and little boy twelve years old, did all the family sewing and washing and work in general, and I could not walk across the room without help or stand on my feet one minute at a time; at night I could not sleep, nor day time either; nothing I ate tasted well—I had no desire to eat anything; my bowels were costive all the time, and after following your advice and using about fourteen dollars worth of your medicines altogether, I now feel like a new person. I am not bothered with that nervousness, where it used to be that I could not stand a sudden rush of horses feet, or a quick halloo from one's boys, or a sudden sound of anything would cause me to take sudden nervous spells of some kind, as if I were smothering or dying, or something of the kind—I can't tell just how I did feel. Now I do all my washing, sewing and house work in general for a family of seven—five children, my husband and self, and help my husband in the field some besides. I can truthfully say, if it had not been for Dr. Pierce's medicines and the kind advice to me, with self-treatment at home, I would have been dead long ago, and I never can feel that I can say enough for his skill and medicine nor thank him enough for the good he has done me.

I use no other medicines in my family but these and never will, for they do all that is claimed for them and more too. I have one of the "Advisers," and I would not be without it for fifty times its cost.

May God be with you throughout your life is my prayer.

Respectfully yours, MRS. ADDIE GLASS,
Bandera, Bandera Co., Texas.

NERVOUS PROSTRATION FOLLOWING GRIP.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—In January of '90 I took the "grippe," went to work before I was well, was caught in a rain which gave me a very bad relapse, resulting in lung fever and complete prostration; was on my bed two months, and when I did get out, the strength to walk any more than just a few rods did not come back. My family doctor and two prominent physicians of Sioux City, did me no good. Late in the fall I got a bottle of Dr. Pierce's Golden Medical Discovery, which quieted my trembling nerves and gave me an appetite to eat. I then concluded to try the Doctor, personally. Up to this time I was in a pitiable condition. Sometimes I could not sleep until I felt almost wild, then sleep so much I would be stupified. I could not digest any food and my whole system was wasting and failing fast. I doubt if any one who saw me expected me to get well. I took the treatment sent me by the World's Dispensary Medical Association for more than a year. The medicine never gave me any distress as other medicines had done before. I began to improve from the start, but the change from one extreme to the other was like the growth of a child.

W. S. NICHOLSON, ESQ.

To any one suffering from nervous prostration I would say, "don't be impatient." It takes a long time for weakened nerves to grow strong. I have at last become strong and well, thanks to the Giver of all good and the grand Institution at Buffalo. I have since married a noble-hearted young woman, and when I am playing with our sweet, healthy, baby girl, I give way to the thought that at last the long, sad chapter of my life is ended; at such times her merry laugh sounds like a song of triumph of life over death.

Gratefully yours, W. S. NICHOLSON,
Willow Creek, Clay Co., Iowa.

NERVOUS PROSTRATION COMPLICATED WITH KIDNEY AND BLADDER DISEASE.

M. MANHEIM, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Having been a patient in your Invalids' Hotel for several weeks, I take great pleasure in telling other sufferers of my treatment which I received under your efficient staff of physicians, surgeons and nurses, and I will say with clear conscience that every care and comfort was given me that I wished for. I am sure that your Institution is far in advance of the age, and would wish that every invalid could avail himself of the treatment that I received in your most excellently kept Invalids' Hotel. I cheerfully give this as my testimonial to individuals, friends and sufferers. My health is so fully restored that I look upon life with pleasure and comfort, whereas before I was a suffering nervous invalid, unable to sleep and much of the time in torment. Wishing you success I am your friend and well wisher,

M. MANHEIM,
Georgetown, S. C.

NERVOUS EXHAUSTION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663 Main St., Buffalo, N. Y.:

Gentlemen—I was troubled with nervous exhaustion; my legs and back ached, and I could not sleep hardly any, and could not rest at night for about three months, and, reading in one of your Memorandum Books a case that suited mine and having taken medicines without any good results, I concluded to try your medicines. I explained my case carefully and got one month's medicines, of which I did not take all as I thought I did not need it, as I felt like another man—could sleep well and work without having that "all-gone feeling."

Yours respectfully,
A. D. CHRISTIE,
Maple Creek, Forest Co., Penn.

A. D. CHRISTIE, ESQ.

NERVOUS AND GENERAL PROSTRATION.

"Life Is Now Sweet."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Six years ago I had an attack of measles, which left my health in a precarious condition. I was placed under the treatment of a good physician who did all in his power to restore my health, but all in vain. I had dyspepsia and could not eat meat, vegetables nor fruit of any kind. I suffered alternately from cold and heat. At times my feet and knees would feel like ice to the touch, and at other times I would suffer the most excruciating torture, seeming as though every nerve in my body was being seared with a hot iron. My left hip and knee would become so affected that I could scarcely walk across the room. I slept very little. On one occasion I remained awake four days and four nights, and then was put to sleep by repeated doses of morphine. My nervous system became so shattered that words spoken by any person in my room fell like pebbles on my brain; and nights I would often have to be raised in bed to prevent smothering to death. It is impossible for me to describe my sufferings at that time but I know that if it had not been for Dr. Pierce's Favorite Prescription I would to-day have been in my grave.

MISS MOYERS.

I began the use of the "Favorite Prescription" in March—three years ago, as well as I can remember. Continued till summer when I wrote to you—received your advice and a few simple prescriptions which I had filled at the drug store. I also began the use of the "Golden Medical Discovery."

My nerves became quiet; I slept well; my stomach began to heal; my strength returned and I began to feel like a new person. And, to-day, while I am not as strong as the strongest, I can do any kind of work that other women do, and each season I can say I am stronger than I was the last. I used thirty bottles of your medicines. Some may say that was a great deal, but I will never regret the money and patience it took to cure me. It has enabled me to once more enter school where I am trying to make up for those lost years of my life, and as I join the girls in their romps, I can say that "life is now sweet."

Any one desiring particulars may address me.

Respectfully, MISS LUCY MOYERS, Kelso, Lincoln Co., Tenn.

NERVOUS EXHAUSTION.

W. H. KEESLER, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I was thought to be beyond all help and had but very little hope myself, but at the urgent entreaty of my wife I let her write to you for me and began taking special treatment from you. I could eat but very little and could keep nothing on my stomach, and was vomiting up bile once or twice every day; muscles all gone and too weak to get about. But to-day I think I am a sound healthy man. I owe it all to your treatment, and a loving Saviour who blessed the means in your hands to the healing of this body of mine. And I gladly recommend the sick and suffering to try Dr. Pierce, and pray God to bless you and your work.

Yours respectfully,

W. H. KEESLER,

P. O. Box 185, Harriman, Roane Co., Tenn.

NERVOUS EXHAUSTION.

Farina, Fayette Co., Ill.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—It gives me great pleasure to add my testimony to that of many others in behalf of the great success of your Institution. I had been breaking in general health for years and had got so that I could not properly attend to my business. Was very forgetful and easily irritated and excited, and was unable to attend to my business a good part of my time. I doctored with country and city M. D's., and took patent medicine, but without any permanent good. I was induced to write to you, which resulted in my taking about one and one-half months' treatment from you, when I felt so much better that I discontinued the treatment. For the last six months I have felt like my old natural self again, and am able to attend strictly to business all the time for which I am very thankful.

Yours truly,

C. A. Weaver

KIND WORDS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Having spent four weeks in your Institution, it gives me great pleasure to state that during that time I received the most courteous and faithful care and treatment, and I bear willing testimony to the skill and ability of the surgeons and the faithful care of the nurses.

Wishing you continued success, I recommend all persons suffering from chronic diseases to give you a trial.

Respectfully yours,

JOHN HURST,

Marquette, Bighorn Co., Wyo.

J. HURST, ESQ.

SICK HEADACHE, GENERAL DEBILITY, MALARIA.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I am happy to say that your valuable medicine has been a great benefit to me. I was suffering from general debility, malaria and nervous sick headaches, and after my third child was born (a beautiful baby boy of ten pounds) I only recovered after a long illness; I barely gained strength enough in two years time so that I was able to crawl about to accomplish the little housework that I had, by lying down to read many times each day; had sick headaches very often; and many pains and aches, all the time complaining of getting no better. I finally asked my husband to get a bottle of Dr. Pierce's Favorite Prescription, which he promptly did. After I had taken one bottle I could see a great change in my strength, and fewer sick headaches.

MRS. J. H. LANSING.

I continued taking the medicine until I had taken eight bottles—seven of the "Favorite Prescription" and one of the "Golden Medical Discovery." For some time past I have not used it, but I am now able to do the housework for myself, husband and two children (aged nine and five years). I also take in dressmaking, and enjoy walking a mile at a time, and I think it is all due to the medicine, for I know I was only failing fast before I commenced to take it. I take great pleasure in recommending the "Favorite Prescription" to all women who suffer from debility and sick headache.

Respectfully yours, MRS. J. H. LANSING,
South Glens Falls, Saratoga Co., N. Y.

HEADACHE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I have used your medicines for a number of years, and know that they do for me all that is claimed for them. I am employed mostly at my desk, and not infrequently have an attack of the headache. It usually comes on in the forenoon. At my dinner I eat my regular meal, and take one or two of Doctor Pierce's Pleasant Pellets immediately after, and in the course of an hour my headache is cured and no bad effects. I feel better every way for having taken them—not worse, as is usual after taking other kinds of pills. Your "Pleasant Pellets" are worth more than their weight in gold, if for nothing else than to cure headache. Very respectfully,

E. VARGASON,
Otter Lake, Lapeer Co., Mich.

E. VARGASON, ESQ.

HEADACHE AND CONSTIPATION.

MISS WOLFE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I suffered from loss of appetite, constipation, neuralgia, and great weakness, and had terrible attacks of sick headache very frequently; also nose bleed. My health was so poor that I was not able to go to school for two years. I took Dr. Pierce's Pleasant Pellets and "Golden Medical Discovery," and in a short time I was strong and well. Many friends are taking your medicines seeing what they have done for me.

Respectfully yours,
MISS BERTHA WOLFE,
Markham, Cattaraugus Co., N. Y.

MRS. JACOBS.

TERRIBLE PAIN IN HEAD AND FAINTING SPELLS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—When I commenced taking your medicine I was very sickly. I had frequent spells of fainting, terrible pain in my head, and life was a burden to me. I was attended by one of the best physicians in our town, but with no good results. At last a neighbor advised me to try Dr. Pierce's Favorite Prescription, which I did, and after taking one bottle I felt greatly benefited. I would advise all ladies similarly afflicted to try "Favorite Prescription."

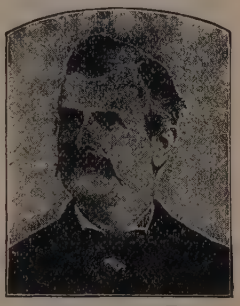
Yours truly,
MRS. SAMUEL A. JACOBS,
Mechanicsburgh,
Cumberland Co., Penn.

SICK HEADACHE, BOILS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663 Main St., Buffalo, N. Y.:

Gentlemen—I was troubled with boils for thirty years. Four years ago I was so afflicted with them that I could not walk. I bought Dr. Pierce's Pleasant Pellets, and took one "Pellet" after each meal. The boils soon disappeared and have had none since. I have also been troubled with sick headache. When I feel the headache coming on, I take one or two "Pellets," and am relieved of it.

Respectfully yours,
WILLIAM RAMICH,
Minden, Kearney Co., Neb.



WM. RAMICH, ESQ.

MISS PAVITT.

SICK HEADACHE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Ltd., 3, New Oxford Street, London, W. C.:

Dear Sirs—I have found great benefit from your "Pleasant Pellets." I have taken them for sick headache and bilious attacks. I have been taken ill in the morning, and a few hours after taking a dose of the "Pleasant Pellets," I have felt much better, and I believe they will quite cure me. Thanking you for your kindness, I remain,

Yours, truly,
MISS PAVITT, 27, Ivy Cottage,
Stanford Rivers, Nr. Romford, Eng.

OBSTINATE NEURALGIA.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663 Main St., Buffalo, N. Y.:

Gentlemen—This is to certify that I had the neuralgia several years, and was not able to perform labor nor attend to business. I was induced to try your medicines, which I took and they effected a permanent cure. I am now well and hearty, and able to do a good day's work, and weigh one hundred and eighty pounds,—and thanks to you for it. I used your medicines three months and was cured.

Yours truly, AUGUST HABENICHT,
Fort Pierce, Brevard Co., Fla.

A. HABENICHT, ESQ.

PARALYSIS AND UTERINE DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

MRS. MANN.

Gentlemen—I will say that your Institute is all that you claim for it, and more too. The Doctors are courteous gentlemen and the best Physicians I have ever met with in my life. My treatment while at the Institute did me more good in one month than all the doctors everywhere else combined. My ailment was Paralysis and Female Weakness. Your treatment did me good while at the Institute, and I have also been greatly benefited by the home-treatment I have received from you since. I am much better than I was; I am able to do considerable work now. When I came to you I could not do anything.

I herewith send you my heartfelt thanks for all you have done for me, and should I need more treatment I will write you as before. I would advise all people who have chronic diseases to go to the Invalids' Hotel and Surgical Institute for help, for it is a grand place and prices are reasonable. We use your Family Medicines—your "Pellets" and "Golden Medical Discovery"—and find they are all you claim for them.

Again I thank you and remain, your friend,

MRS. S. B. MANN,
Sutton, Clay Co., Neb.

PARTIAL PARALYSIS FROM UTERINE DISEASE.

Buffalo, La Rue County, Ky.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I am still having very good health. I value Dr. Pierce's Golden Medical Discovery and his "Favorite Prescription" very highly and often recommend them to others. I do not think I would ever have got well if it had not been for your medicines. I was in a sad condition. My bowels and half of my body (the left side), was nearly paralyzed, besides nearly my whole system was out of order. I suffered all the time; but after taking six bottles of "Golden Medical Discovery" and the same of "Favorite Prescription," and using two bottles of Sage's Catarrh Remedy as an injection, I felt like a new person. I have never seen anyone suffering in the same way as I did. If anyone with female trouble of any kind will use your medicines I am satisfied they will help them.

Yours truly,

Mary A. Sallee,

LOCOMOTOR ATAXIA. SPECIAL TREATMENT.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Ltd., No. 3 New Oxford Street, London, W. C.:

Gentlemen—In the latter part of 1890, I was struck down with that terrible—and by many members of the medical profession pronounced to be, incurable disease, locomotor ataxia. My family doctor declared that nothing could be done for me, but for the sake of satisfaction advised me to go to London, and see an expert, whom he named. I did so, with the result of being told as above. This was in November, 1890. The symptoms were first numbness in hands and feet, which soon extended as far as the thighs, joined with the most intense feeling of cold that it can be possible to imagine. For six months I felt as though I had stood in ice up to my thighs. I soon became unable to walk or to stand, and crawled up stairs on my hands and knees, I thought for the last time, as I then thought I should die. Stomach troubles then set in, and for more than three months, I endured the utmost agony. Night and day sweats absorbed my little remaining strength, and I became helpless. I had taken leave of my family, not expecting to last the day out, when I was seen by a young doctor, who is fast becoming an eminent man, who said he thought he could alleviate my sufferings—though he did not expect to cure me. He commenced to treat me, and in about one month I began to improve, though very slowly. This was in February, 1891, and before the end of the year I was able to walk down stairs again. It was in March, 1892, that I began taking Dr. Pierce's Golden Medical Discovery, and

C. F. G. CASTLEMAN, ESQ.

on sending to you for a bottle in reply to your inquiry, I began your special treatment, with the happy result that I gradually improved in health and strength; and on the 26th of October, 1892, I was able to call on you in London, and you advised me to continue your treatment, and use a battery as well, which I did until April, 1893, when I could walk about quite nicely, and I now enjoy better health than for the past eight years. I am thankful too, that my eldest daughter has derived the greatest benefit from Dr. Pierce's Favorite Prescription. She took it for painful menstruation, and is now well and healthy. I am

Yours very truly, C. F. GOODWIN CASTLEMAN,
Bursledon, Southampton, England.

PARALYSIS, NERVOUS PROSTRATION, ETC.

F. M. BRASHER, ESQ.

From the records of the WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

This gentlemen had a severe attack of grip in January, 1890. His health gradually declined until June, at which time he was taken very much worse. Had nervous shocks three or four times a day. Slight paralysis of lower limbs. Respiration and pulse slow and irregular. Bowels constipated and tongue coated. Indigestion. Ringing in the ears. Legs wasting. Dimness of vision. Lost flesh rapidly and reduced to "skin and bones." Chills and sweats; dizzy. Had great distress in bowels. Pain about the heart. Had been confined to his bed 46 days, at the time the case was submitted to us. We sent only one month's course of special medicines. He writes us afterwards:

"I am at regular farm work, after my doctor here having told me that I must die and that Dr. Pierce was a gigantic humbug."

Yours truly, F. M. BRASHER,
Homer, Logan Co., Ky.

EPILEPTIC "FITS."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663 Main St., Buffalo, N. Y.:

Gentlemen—My daughter, Sadie, is eighteen years old; has been afflicted with that dreaded disease, Epilepsy, for fourteen years. She received treatment from seven different doctors without any material benefit. She has only had one spasm after commencing with your treatment, now almost two years. Three boxes of epilepsy medicine, followed up with your "Favorite Prescription" cured her. She took about six months' treatment in all.

This places us under a world of obligation to you as the instrument of our great relief under a kind Providence. Should there be any signs of it returning we would with unshaken faith send for more medicine. You can use her or my signature as you wish.

Yours truly,
GEORGE SWINEHART,
Lake, Stark Co., Ohio.

MISS SWINEHART.

EPILEPSY.

Cured by Special Treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Ltd., No. 3 New Oxford St., London.:

Gentlemen—I have great pleasure in announcing to you my heartfelt thanks for the benefit derived from your treatment, having suffered from epileptic fits for six years. I have experienced as many as five and seven fits a day, some lasting two hours at a time. I am glad to say since trying your medicine which is now five months, I have not had one. Thanking you for your kindness. Gratefully yours,

GEO. HERBERT PLUMSTEAD,
67 Fishgate Street,
St. Edmunds, Norwich, England.

G. H. PLUMSTEAD, ESQ.

SPASMS OR FITS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

MASTER JOHNNIE MAXWELL

Gentlemen—I desire to express my gratitude for the wonderful results of your treatment with my little son John. He was very bad, as we thought, for the physician could do nothing for him any more, and I got discouraged and went to my daughter, Mrs. D. T. Knappenberger, of Jeannette, Pa., (who has been a terrible invalid and was cured at your Institute), for advice. 'Oh, father,' she said, 'don't doctor here, but go to Dr. Pierce. So the result was I gave her money and she sent for medicines. You sent two bottles of medicine and he never has taken a drop since and is perfectly well and never had a spell since. I do not know what you call the disease, but we called it spasms or fits. With my experience I can heartily recommend the Invalids' Hotel, and think if a case can be cured at all, you can cure it. And unless they can cure or greatly benefit the patient, they will not undertake it; this is my experience with the World's Dispensary. My daughter, Mrs. D. T. Knappenberger, and my son Johnnie, feel very grateful toward the Dispensary for their cure.

Yours truly,
D. A. MAXWELL,
Greensburgh, Westmorland Co., Pa.

EPILEPSY, "FITS."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

MISS MCCARTY.

Gentlemen—My little girl was delicate from birth, nervous and irritable. When three and one-half years old we discovered she had that terrible disease "epilepsy," inherited from her father's family; she had spasms or fits once in two or three days, and grew worse so rapidly that in four months she had from four to eight fits in twenty-four hours. Home physicians did no good, and just then one of your little pamphlets came to me as they had come often before. As my need was great I wrote a description of her case, and though your answer did not seem very encouraging, I did not dare to lose any chance of saving my child, so I commenced the treatment. On November 6, 1891, she had seven fits; November 7th gave her your medicines; she had four fits that day, and never one since. She took your medicines less than four months. She is nearly six years old, a strong, hearty, bright child, attending school every day.

What more can I say than that I thank Dr. Pierce and the Faculty of the World's Dispensary Medical Association for having saved the life of my child, and I thank God that he gave them the knowledge and skill to do so.

Respectfully yours,
MRS. J. MCCARTY,
Gouldsville, Washington Co., Vt.

MASTER IRA D. PONSLER.

ST. VITUS'S DANCE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—My boy had been in bad health for a long time. We called our home doctor, but he got no better. Finally he had the St. Vitus's Dance, and our doctor did not know what to do. So I wrote to you and did as you told me; I got two bottles of your "Favorite Prescription," and one bottle and a half did the work all right. At that time, eighteen months ago, his weight was 85 pounds, now it is 135 to 140; he is fourteen years old.

Yours truly,
JEREMIAH PONSLER,
Zenas, Jennings County, Ind.

EPILEPSY, FITS.

This young girl, aged fourteen, a farmer's daughter, had been troubled with epilepsy for several years. The fits were becoming more frequent and severe. She had been treated unsuccessfully by all the physicians in the neighboring villages. At last, through one of our patients, her father was induced to write us for treatment. After two months' special treatment she was cured. He writes as follows after a year's time:

MISS MCGEATH.

R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—Miss Elizabeth McGeath took your medicines as per directions until last August, at which time we considered her entirely cured. The last spasm that she had was one year ago last March, and she has had no symptoms of any since, and she now weighs 120 pounds, having gained 30 pounds under your treatment. We will always feel grateful to you, as we feel that your treatment of her case has saved her from an untimely grave.

Respectfully yours,
S. M. MCGEATH,
Jeffersonville, Wayne Co., Ills.

Several years later, Mr. McGeath writes enclosing his daughters picture and says: "All that I have heretofore said, in relation to the cure of my daughter is strictly true. You made a permanent cure of her case. You can use my name in your book if you wish, for words cannot express our thanks.

My wife has taken twenty-two bottles of your "Discovery" and "Favorite Prescription," and they have cured her.

A STRONG ENDORSEMENT.

To whom it may concern:

This is to certify that I took treatment at the Invalids' Hotel and Surgical Institute, Buffalo, N. Y., and I was cured of a chronic trouble that had been maltreated by other physicians. While there I saw a man who had been cured by the specialists, who had before been given up to die by the best doctors in Troy, N. Y. Of course, the case must have been a very stubborn one. I afterwards saw a man here, in Georgia, die, who, if he had been in Pierce's Surgical Institute under the treatment and care of his skilled doctors and nurses, I know would have most assuredly got well. Why? Because it was only a case of *stone in the bladder*, and they are easily cured at Dr. Pierce's Surgical Institute. I think almost any chronic disease can be cured there, if taken in time, judging from my observations while an inmate of that Institution.

H. E. BANKSTON,
Barnesville, Pike Co., Ga.

H. E. BANKSTON, ESQ.

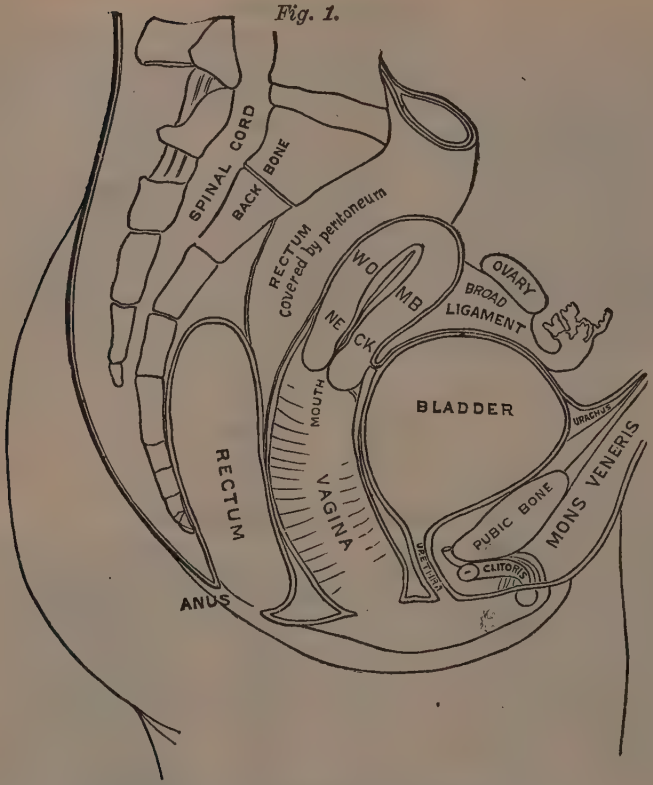
A. HOLES, ESQ.

COMPLICATION OF DISEASES.

Without solicitude or hope of pecuniary reward, with heart-felt gratitude and a desire to aid my fellow-man to health and happiness, allow me to state, that as an inmate for more than a month of the Invalids' Hotel and Surgical Institute at No. 663 Main Street, Buffalo, N. Y., I feel warranted in its highest recommendation. While there I saw and talked with a great number of people who came there as a last resort, to be cured of almost every chronic disease to which flesh is heir, and they were unanimous in their praise of the Institution and the skilled specialists who constitute its professional staff.

ANDREW HOLES,
Moorhead, Minn.

Fig. 1.



OUTLINE OF THE FEMALE URINARY AND GENERATIVE ORGANS.

The above cut is introduced here to assist in conveying a correct idea of the Urinary and Generative Organs of Woman, their form and relative positions, together with the bones, muscles and other tissues forming the cavity of the pelvis in which the organs rest, and by which they are protected. By dividing that portion of the body directly through the middle from before backward, we first cut through the cushion of fat (mons veneris) covering the pubic bone, then in succession the bone, bladder, womb, vagina, rectum, front half of spine, spinal marrow, rear half of spine, and lastly the muscles and skin. Just underneath the bone in front is revealed that sensitive organ, the clitoris, a fac-simile of the male organ in miniature, the head ot which protrudes, while the body is covered with tissue, but is readily traced with the finger. Further back is the urethra, or water passage, which is one and a half inches long. Next is the vagina. When closed, its mucous lining is folded in upon itself, and requires dilating in order to be cleansed and to apply remedies. On the vagina rests the hollow, pear-shaped womb, the small-end of which protrudes into the vagina, and in which is a small opening, leading through the neck into the cavity of the organ. On either side of the womb, near its top, are the Fallopian tubes leading to the ovaries, situated between the womb and hip bones. At every menstruation these organs throw off a germ-cell, which passes through the Fallopian tubes into the uterine cavity.

The Door of Life.

The fear of pain and the dangers of childbirth fill many a woman's breast with dismay. In the olden days of leeches and witchcraft, it was considered sacrilegious to lessen the pains of labor. Latterly, anæsthetics have been used at the time of parturition, and now people are beginning to find out that pain and danger can be almost wholly avoided.

Proper preparation during gestation will make both as rare as they used to be common. There is no reason why childbirth should be fraught with danger and distress. It is a perfectly natural function, and should be performed in a natural way without undue suffering. Nature never intended that women should be tortured when doing the one thing which makes them wholly womanly. The perversion of nature's laws has brought this suffering about, and a return to right living will stop it.

Nine out of ten women are troubled more or less by weakness and diseases peculiar to their sex. It is so because they do not take proper care of themselves—because they neglect little ills and little precautions. A woman in perfectly hearty health goes through her time of trial with comparative ease. The thing to do then, is to make all pregnant women healthy—to strengthen them generally and locally. The medicine and tonic to do it with is Dr. Pierce's Favorite Prescription.

It is a powerful invigorant and nervine. It soothes and strengthens the nerves and acts directly on the feminine organism in a way which fits it for the proper and regular performance of all its functions at all times.

Taken during gestation it robs childbirth of its dangers to both mother and child, by preparing the system for delivery, thereby short-

ening labor, lessening pain and abbreviating the period of confinement. The Favorite Prescription also promotes the secretion of an abundance of nourishment for the child, if taken after confinement, besides building up the mother's strength and making her recovery more perfect.

ABORTION. (Miscarriage.)

The term *abortion* is used to denote the premature expulsion of the fœtus. If the expulsion takes place within four months after impregnation, it is termed *abortion;* if between the fourth and seventh month, *miscarriage;* if after the seventh month, but before the completion of the full period of gestation, *premature labor.*

Abortion may be due to those agents which act directly upon the uterus and cause the expulsion of the fœtus; to those which occasion the death of the fœtus, thereby effecting its ejection; and it may be *criminal*, that is, produced intentionally by direct agencies intended for that purpose.

Symptoms. The premonitory symptoms are pain in the loins and lower part of the back, a dull pain in the abdomen and thighs, nausea, chills, and palpitation. The membranes and blood-vessels of the uterus become lacerated, causing profuse hemorrhage. The discharge of blood from the vagina is sometimes attended with excessive pain.

The Causes which act directly upon the uterus to produce abortion may be violent exercise, lifting, accidents, or injuries from blows or falls. Nervous susceptibilities, a plethoric condition of the system, anæmia, exhaustive discharges, use of improper food, uterine displacements, congestion caused by excessive sexual excitement, general debility or muscular irritability, which is sometimes so great as to produce contractility of the uterus before the term of pregnancy is completed, inflammation of the cervix, ulcerations of the uterus, or any previously existing disease may produce abortion. When it has once taken place, it is apt to recur at about the same time in subsequent pregnancies.

The death of the fœtus may be occasioned by a diseased condition of the embryo, amnion, or placenta, and also by convulsions or peritoneal inflammation.

Criminal Abortion is secretly practiced by women who desire to rid themselves of the evidence of immorality, and by those in wedlock who wish to avoid the care and responsibility of rearing offspring. Statistics show that it is very prevalent, undermining the health of women and corrupting the morals of society. We cannot pass over this subject in silence. Those who frustrate the processes of nature by violating the laws of life incur just penalties. All the functions of life and body are vitally concerned in reproduction. Any infraction of the Divine law, "Thou shalt not kill," is inevitably followed by punishment. The obligations to nature cannot be evaded without inevitable

penal effects. Furthermore, all such transgressors carry with them the consciousness of guilt and the feeling of secret woe.

"O God! that horrid, horrid dream
Besets me now awake!
Again, again, with dizzy brain,
The human life I take,
And my red right hand grows raging hot,
Like Cranmer's at the stake."—HOOD.

What shall we say concerning abortionists, men and women who are willing to engage in the murder of innocents for pay? True, there may be circumstances in which it is not right to continue in the pregnant condition, such as when the children of an unfortunate marriage are idiots, or the pelvis of the woman is so deformed that she cannot bear a living child. All such cases should be submitted to the *family* physician, who ought to be made acquainted with all the circumstances and facts relating to the case, when he can summon other physicians for counsel, and their deliberations may determine the propriety or necessity of bringing on an abortion.

Parties have written to us and others have made personal application under circumstances when it might have been right for their *family physician* to have induced abortion. We wish to have it distinctly understood that we will not under any circumstances prescribe medicines or perform any operation to relieve women of pregnancy.

Mechanical means are resorted to by abortionists, and many women produce abortion upon themselves. It always terminates in lasting injury and sometimes in speedy death. Certain medicines will sometimes produce abortion but they are very unsafe. An opinion is very prevalent that if abortion be produced before the movements of the fœtus are felt, there is no crime committed. It should be remembered that *life begins with conception*, and, at whatever period of pregnancy abortion is committed, *life is destroyed*. Whoever disobeys the Divine injunction cannot escape his own consciousness of the deed, and the anguish and bitter remorse which ever after disturb the soul.

Treatment. In threatened abortion, there is pain in the back or lower part of the abdomen, and later some flow of blood. The first object is to obtain perfect rest and quiet, and assume the recumbent position. By lying down, the blood will be more easily diverted to the surface of the body. Gallic acid, in doses of five grains every two or three hours, is often a valuable agent to arrest the hemorrhage, but opium in some form should be relied upon principally. A Dover's powder, ten grains, may be administered, to assist in determining the blood to the surface and extremities of the body and to allay irritation. The room should be cool, the patient should lie on a hard bed, and all company should be avoided, for excitement favors abortion. If the flow of blood equals a gill in amount, there is little hope of preventing abortion, and the treatment of the case should be entrusted to the family physician.

Woman and Her Diseases.

An imaginative poet avers that woman is the link connecting Heaven and earth. True it is, we see in her the embodiment of purity and heavenly graces, the most perfect combination of modesty, devotion, patience, affection, gratitude and lovliness, and the perfection of physical beauty. We watch with deep interest the steady and gradual development from girlhood to womanhood, when the whole person improves in grace and elegance, the voice becomes more sonorous and melodious, and the angles and curvatures of her contour become more rounded and amplified, preparatory for her high and holy mission,

The uterus, or womb, and ovaries, with which her whole system is in intimate sympathy, render her doubly susceptible to injurious influences and a resulting series of diseases, from which the other sex is entirely exempt, By their sympathetic connections they wield a modifying influence over all the other functions of the system. Physically and mentally, woman is man modified, perfected,—the last and crowning handiwork of God. When, therefore, this structure so wonderfully endowed, so exquisitely wrought, and performing the most delicate and sacred functions which God has ever entrusted to a created being, is disturbed by disease, when the nicely-adjusted balance of her complex nature deviates from its true and intended poise, the most efficient aid should be extended, in order that the normal equilibrium may be regained, her health restored, and her divine mission, on which human welfare so largely depends, be fulfilled. Its importance should elicit the best efforts of the highest type of mind, the ripe development of genius, and the most scientific administration of the choicest, rarest, and purest medicinal elements in the whole range of nature.

A Vast Experience. As the remedial management of diseases of women has, for many years, entered very largely into our practice at the Invalids' Hotel and Surgical Institute, located at 663 Main Street, Buffalo, N. Y., comprising the treatment of many thousands of cases annually, we have been afforded great experience in perfecting and adapting remedies for their cure, enabling us to meet their requirements with increased *certainty* and *exactness*.

Treating the Wrong Disease. Our improved and perfected system of diagnosing, or determining, the *exact* nature and extent of chronic affections, which, in most cases, we are able to do at a distance, and without a personal examination of the patient, as will be more particularly explained in the appendix, or latter part of this little book, has enabled us to avoid the blunders so often committed by the general practitioner, who not infrequently treats those afflicted with chronic ailments peculiar to women, for long weeks, and perhaps months, without ever discovering their real and true disease, or condition.

Thus, invalid women are often uselessly subjected to treatment for dyspepsia, heart disease, liver or kidney affections, sick headaches, and various aches and pains, as if they were *primary* diseases, when in reality, they are only so many local manifestations, or *symptoms*, of some over-looked derangement, or disease, of the womb. For, as we have already intimated, every organ of the system is in *intimate* sympathy with the uterus, or womb. Any disease, either functional or organic, of this organ, is at once manifest through several, if not all, the sympathizing organs of the system. When we receive a sharp blow upon the elbow, the pain is felt most keenly in our little finger. Just so in diseases of the womb ; often the most distress is felt in organs or parts of the system quite distant from the real seat of disease. On this account, thoughtless, easy-going and ignorant physicians are misled, and very commonly mistake the invalid's disease for some affection of the stomach, heart, liver, kidneys, or other organ, when really it is located in the uterus. Cure the disease of the womb, and all these disagreeable manifestations, or symptoms, vanish. Their cause being removed, the various dependent derangements, and disagreeable nervous sensations and sufferings rapidly give way, and vigorous health is firmly re-established.

Time and Perseverance in Treatment Required to Cure. Most chronic diseases of women are slow in their inception, or development, and their removal or cure must necessarily be gradual. Disease that has been progressing and becoming more firmly established for months, or perhaps years, cannot, except in rare cases, be hastily dislodged, and the system restored to perfect health. The process of cure, like the development and progress of the disease, must be a gradual one, accomplished step by step. Often, too, the use or medicines that, if *persisted* in, will prove beneficial and curative, will, for a considerable time, arouse in the system very disagreeable sensations, and many times this leads unthinking persons to become frightened or discouraged, and to quit the treatment best adapted to their cases if only faithfully carried out. In many forms of womb disease, their are organic lesions or changes, that can be repaired only by a gradual process, just as an external wound would heal,—not suddenly, but by a constant, slow filling in and building up, or by the gradual development or growth of one cell upon another. Just as a great breach in a wall would be repaired by filling in brick upon brick, until the defect is effaced, so must these leisons be removed by gradual processes. When fully repaired, the dependent, sympathetic derangements, disagreeable sensations, and all the long train of consequential symptoms are, one by one, abolished.

Not Limited in Our Remedial Resources. It should be borne in mind that, while we recommend, in this little volume, certain courses of treatment for ordinary cases, the remedies mentioned do not by any means embrace all our resources in the way of medicines and

other curative agencies, especially for complicated, difficult, or very obstinate cases. In many of the latter class we can send medicines that are exactly adapted to the case, if the invalid will fill out one of our "Applications for Treatment," which may be found folded in the latter part of this book, or which will be sent to any address, on application, by mail. In most womb diseases, the chemical and microscopical examination of the urine also furnishes valuable aid in determining the exact condition of the patient, as well as the precise stage of the local organic disease. Full directions for putting up and sending such samples may be found in the "Appendix" of this little volume.

Every case submitted to us, either by letter or in person, receives the careful and deliberate consideration of a full Council of specialists before a decision as to the nature of the malady, or the proper course of treatment to be employed, is determined upon. The great advantage of this system of practice must be obvious to every intelligent, thoughtful person. No experimenting is ever resorted to. The treatment is *specially* and *exactly* adapted to each individual case, which requires such judgment, skill, and nicety of discrimination, as has only been acquired by our specialists through long and diligent study, and an experience embracing the treatment annually of many thousands of cases of those chronic diseases which are peculiar to women.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,

663 Main Street, Buffalo, N. Y.

MENSTRUATION AND ITS DISORDERS.

The function of the ovaries is to furnish ova or germs, and the functions of the uterus or womb are to secrete mucus; to exude the menses; to secrete the decidua; to contain and nourish the fœtus and to effect its expulsion.

Menstruation, or the menses, monthly visitation, catamenia, menstrual flow, courses, or periods, usually makes its appearance in the female between the twelfth and fifteenth years, at which time the reproductive system undergoes remarkable changes. A marked characteristic of menstruation is its regular return about every twenty-eight days. The menstrual flow usually continues from three to six days, and the discharge seems to be ordinary blood, which, during its vaginal passage, becomes mixed with mucus, and is thereby deprived of the power of coagulation. The quantity exuded varies from two to eight ounces, but the amount consistent with the health of one person, may be excessive and weakening in another. This function is regarded as being regular when its effect upon the system is favorable, for whatever organic process directly contributes to the health should be considered as normal. It occurs at regular intervals for about thirty

years, when menstruation and the aptitude for conception simultaneously cease.

The departures from healthy menstruation are numerous. The most important of these are *amenorrhea*, *dysmenorrhea*, and *menorrhagia*.

AMENORRHEA.

The term *amenorrhea* signifies the absence of menstruation when it should occur. It may be considered under two general heads: when it fails to be established at the proper age, and when, after having made its appearance, it ceases to return at the usual periods. The term *retention* has been applied to the first, and that of *suppression* to the latter. Menstruation may fail to be established in consequence of organic defects, or from some abnormal condition of the blood and nervous system.

Malformation of the Vagina. Retention of the menses may result from malformation of the vaginal canal, which sometimes terminates before it reaches the womb, being simply a short, closed sac. If the uterus and ovaries are perfect, all the feminine characteristics are manifest, and a vaginal exploration discloses the nature of the difficulty. If, however, the sides of this passage adhere in consequence of previous inflammation, they may be carefully separated by a surgical operation, and this function restored.

Absence or Malformation of the Womb. The uterus may be deformed or entirely absent, and yet there be an inclination, or symptoms indicative of an effort, to establish this function. The individual may be delicate in organization, graceful in bearing, refined and attractive in all feminine ways, and yet this organ may be so defective as to preclude the establishment of the menstrual function. Sometimes there is merely an occlusion of the *mouth* of the uterus, the perforation of which removes all difficulty. In others, the *neck* of the womb is filled with a morbid growth, or the walls of its canal are adherent, as the result of inflammation, and may be separated by a small silver or ivory probe, and the menses be thus liberated.

Imperforate Hymen. The hymen is a circular, or semilunar membrane, which imperfectly closes the outer orifice of the vagina in the virgin. When of a semilunar shape, it usually occupies the lower or posterior portion of the canal, leaving an opening in the upper or anterior portion, varying from the size of a quill to that of a thimble, through which the menstrual fluid exudes. This membrane is usually ruptured and destroyed by the first sexual intercourse, and, hence, its presence has been considered evidence of virginity. Its absence, however, must not be considered a conclusive evidence of sexual intercourse, for, as Dr. Dunglison says, "many circumstances of an innocent character may occasion a rupture or destruction of this membrane. It is often absent in children soon after birth; while it *may* remain entire

after copulation. Hence, the presence of the hymen does not *absolutely* prove virginity; nor does its absence prove incontinence, although its presence would be *prima facie* evidence of continence."

Sometimes this membrane, when not imperforate, is so thick and strong as to render sexual intercourse impossible, and requires a cutting operation to open the vagina. Several such cases have been operated upon at the Invalids' Hotel and Surgical Institute.

It occasionally happens that the hymen is entire, or imperforate, at birth. This may not be discovered before puberty. But when this period arrives and the menstrual discharge takes place into the vagina, the female will suffer from the retention and accumulation of this secretion, and ultimately a tumor or a protrusion of the membrane which closes the vagina will occur, giving rise to severe pain and other serious symptoms. The retained menstrual fluid, increasing in quantity at every monthly period, dilates the womb as well as the vagina, and even the Fallopian tubes become distended, presenting at length an urgent necessity for relief.

Treatment. This condition admits of relief only by operative surgery. The operation consists in dividing the hymen by a crucial incision, thus allowing the accumulated fluid to be discharged, after which the vagina is cleansed by syringing it with warm water.

Absence of the Ovaries. Let us suppose the case of a young woman who has fully reached the period of puberty without having menstruated. All the organs which we have described, are manifestly devoloped, she is healthy, vigorous, robust, and able to exercise freely or to engage in laborious occupations. But we notice that her voice is not sweetly feminine, nor is her presence timid, tender, and winning; there is wanting that diffident sexual consciousness, which gently woos, and, at the same time, modestly repels, and tends to awaken interest, curiosity, and desire. Considering also that she has never manifested any inclination to menstruate, we are irresistibly led to the conclusion that the ovaries are wanting; the delicate mustache upon the upper lip, the undeveloped breasts, the coarse features, and her taste for masculine pursuits, all concur in this diagnosis. Thus we account for the harshness of the voice, fitted for command rather than to express the mellow, persuasive cadences of love. Such a malformation cannot be remedied.

Retention and Suppression from Morbid Conditions of the Blood. Non-appearance, as well as suppression of the menses, may result from an abnormal state of the blood. The first condition which demands our attention under this head is *plethora*. In robust, plethoric females the menses are sometimes very tardy in their appearance, and every month the attempt to establish this function is attended with pain in the head, loins, and back, chilliness, nausea, and bloating of the abdomen. Sometimes there is intolerance of light or sound, and cerebral congestion, amounting almost to apoplectic symptoms. The

pulse is full and strong, the blood abundant and surcharged with red corpuscles. Such persons may be accustomed to luxurious living, and there is evidently a predisposition to abnormal activity of the alimentary functions.

Treatment. We may briefly suggest that such subjects should engage in laborious physical exercise in order to expend the surplus of vitality, and should lessen the daily amount of food taken, and use that which is light and unstimulating. We should also prevent the determination of blood to the head, by keeping it cool and the feet warm, and by increasing the flow of blood to the extremities. The volume of the circulation may be diminished by acting upon the natural outlets, such as the skin, kidneys, and bowels. The proper means and appliances for quickening the circulation of the blood are indicated, and friction upon the surface, bathing, the daily use of such cathartics as Dr. Pierce's Pleasant Pellets, and, finally, the use of some general uterine stimulant, such as Dr. Pierce's Favorite Prescription, will generally prove successful in cases of amenorrhea resulting from plethora.

Retention and Suppression from Anæmia. To describe the condition of the patient whose blood is low and deprived of the richness, warmth, and bloom, it once possessed when it kindled admiration and enthusiasm in others, is but to give a picture of a numerous class of female invalids. It is sad to see beauty fading, vigor waning, and Bright's disease or consumption slowly wasting the blood and consuming the vital cells, until the spirit can no longer dwell in its earthly abode and death claims the skeleton for dust.

Chronic Decline, with its attendant anæmia, may be induced by bad habits, destitution, or constitutional depravity. Sickly forms, wrecks of health, address our senses on every side. All these subjects evidently once had a capital in life, sufficient, if properly and carefully husbanded, to comfortably afford them vital stamina and length of days. Alas! they have squandered their estate, perchance in idleness and luxurious living, or have wasted it in vanities or misdirected ambition. Having become bankrupts in health, there is necessarily a failure of the menstrual function, and then follows a *panic*. All the blame of the insolvency and general derangement, is unjustly attributed to the non-performance of the duties of the uterus. Thus, this organ is altogether *dependent* upon the general health for its functional ability, yet frequently treatment is instituted to compel menstruation, regardless of the condition of the system. Thus the enfeebled uterus is wrongfully held responsible for general disorder, because it ceases to act, when *by acting* it would further deplete the blood and thus materially contribute to the already existing chronic decline.

No matter what are the causes of this decline, whether they are the follies of fashion, the effect of indolence, debility in consequence of insufficient food, perversion of nutrition by irregular habits, lack of ex-

ercise, or the taking of drastic medicines, the result is anæmia and amenorrhea.

Treatment. We would suggest in such cases a nutritious diet, increased exercise, cleanliness, regular habits, hard beds, and useful employment. The diet may be improved by animal broths, roasted meats, fresh beef, mutton, chicken, or eggs, and the dress should be comfortable, warm, and permit freedom of motion. The patient should indulge in amusing exercises, walking, swinging, riding, games of croquet, traveling, singing, percussing the expanded chest, or engage in healthful calisthenic exercises. The hygienic treatment of this form of amenorrhea, then, consists in physical culture, regular bathing. and the regulation of the bowels, if constipated, as suggested in this volume under the head of constipation.

The *medical treatment* should be directed to enriching the blood, improving nutrition, toning up the generative organs, and the health of the whole system. This requires the employment of uterine and general tonics, and Dr. Pierce's Favorite Prescription, which is sold by druggists, happily combines the properties required. It improves digestion, enriches the blood, exercises a tonic and gently stimulating effect upon the uterus and ovaries, and thus promotes the function of menstruation. It is not a strong emmenagogue, but operates slowly, yet surely, and in accordance with physiological laws, being eminently congenial in its effects upon the female system, and, hence, not liable to do harm. There is danger in employing active driving medicines, besides, no emmenagogue, however powerful, can establish the menstrual function so long as the system is in a debilitated condition and the blood reduced. The restorative effects of the "Favorite Prescription" should be secured by administering it regularly, in from one to two teaspoonful doses, three or four times a day, for several weeks, and as the system is built up and those symptoms appear which indicate a return of the menses, their visitation may be encouraged by the use of hot foot and sitz-baths, and free doses of Dr. Pierce's Compound Extract of Smart-weed. But the latter should only be used when symptoms of approaching menstruation are manifested. By following out this course of treatment, a soft flush will gradually take the place of the pallor of the cheeks, the appetite will return and the health will be restored,

Acute Suppression of the Menses may be caused by *strong emotions*, as excessive joy, or by violent *excitement* of the *propensities*, as intense anger, sudden fright, fear, or anxiety. Suppression may result from sudden exposure to cold, immersion of the hands or feet in cold water, drinking cold water when the body is heated, sitting on the cold ground or damp grass, or from a burn or wound. It is not uncommon for women to labor in the heated wash-room, pounding, rubbing, and wringing soiled linen, thereby overtaxing the delicate physical system. While feeling tired and jaded, all reeking in perspi-

ration, they rinse and wring the clothes out of cold water and hang them upon the line with arms bare, when the atmosphere is so freezing that the garments stiffen before they finish this part of the task. Is it any wonder that acute suppressions occur or that inflammations set in?

The symptoms which naturally follow are a quick pulse, hot skin, thirst, fever, headache, and dizziness, and the inflammation may locate in the ovaries, uterus, lungs, bowels, brain, or other parts. No matter what organs are attacked the menses are suppressed. The suppression can generally be attributed to an adequate cause, resulting in constitutional disturbance. The severity and duration of the attack and the power of the constitution to resist it, must determine the gravity of the consequences.

Treatment. As acute suppression of the menses is due to derangement of the circulation of the blood, caused by taking cold, by violent excitement of the propensities or excessively strong emotional experience, the prominent indication is to secure its speedy equalization. Give a hot foot, a warm sitz, or the spirit vapor-bath and administer full doses of Dr. Pierce's Compound Extract of Smart-weed, to produce free prespiration. Dr. Eberle, a very celebrated medical author, says that he used the Extract of Smart-weed in twenty cases of amenorrhea, and affirms, "with no other remedy or mode of treatment have I been so successful as with this." Our experience in the use of the Extract has been equally satisfactory. Should this treatment not establish the function, Dr. Pierce's Favorite Prescription should be given three times a day until the system is invigorated, say for twenty-eight days, when the above course may be repeated, and generally with success. Should the case be complicated with inflammation of the lungs, brain, or other vital organs, manifesting alarming symptoms, the family physician should be called. The treatment should be active and suited to the indications of each particular case. When the disease becomes chronic, the active stage of symptoms having passed, and it continues to linger without making the desired improvement, all the means suggested for the treatment of suppression from anæmia should be employed. Their use will be followed by the most gratifying results. It should be borne in mind, however, that when we have suggested any treatment in this volume, it is generally such as the family may institute and apply, and does not, by any means, represent the variety or extent of the remedial resources which we employ when consulted in person or by letter. We refer our readers to only a few of the safe and reliable remedies which we have prepared and placed within their reach, and give them just such hygienic advice as we think will best serve their interests.

DYSMENORRHEA.

(Painful Menstruation.)

Dysmenorrhea, from its Greek derivation, signifies a *difficult monthly flow*, and is applied to menstruation when that function becomes painful and difficult. Menstruation, like other healthy operations of the body, should be painless, but too frequently it is the case, that discomfort and distress commence twenty-four hours before the flow appears, and continue with increasing pain, sickness at the stomach, and vomiting, until the patient has to take to the bed. When the discharge does occur, speedy relief is sometimes obtained, and the patient suffers no more during that menstrual period. With others, the commencement of the function is painless, but from six to twenty-four hours after, the flow is arrested and the patient then experiences acute suffering. Pain may be felt in the back, loins, and down the thighs. Sometimes it is of a lancinating, neuralgic kind, at others, it is more like colic. Frequently the distress causes lassitude, fever, general uneasiness, and a sense of lethargy. There are those who suffer more or less during the entire period of the flow, while the distress of others terminates at the time when a membranous cast is expelled. For convenience of description, dysmenorrhea has been divided into the following varieties: *neuralgic*, *congestive*, *inflammatory*, *membranous*, and *obstructive*.

The neuralgic variety of dysmenorrhea, sometimes called *spasmodic* or *idiopathic*, occurs when there is excessive sensibility of the ovaries and uterine nerves, which sympathetically *respond*, especially to cutaneous, biliary, and sexual irritation, and when ovarian or uterine irritation is communicated to distant nerve-centres. In the first class, usually comprising lean persons of an encephalic temperament, whatever disorders the functions of the general system, instantaneously reflects upon the ovaries and uterine nerves, and the menstrual function is correspondingly disturbed, and, instead of being painless, the flow becomes spasmodic, with paroxysms of distress. In the second class, which includes those persons who are plethoric, the ovarian and uterine nerves seem to be the origin and centre of irritation, which is sometimes so severe as to cause indescribable pain. We have known women who affirmed that the severity of labor pains was not so great as that from this cause. In one instance, the subject suffered thus for eleven years, and then became a mother, and has ever asserted that her periodic suffering was far more intense than the pain experienced during her confinement. These neuralgic pains fly along the tracks of nerves to different organs, and capriciously dart from point to point with marvelous celerity, producing nausea, headache, and sometimes delirium.

In the congestive variety of dysmenorrhea, the menstrual period may be ushered in without pain; after a few hours, the pulse becomes stronger and more rapid, the skin grows hot and dry, the menses stop, there is uneasiness, restlessness, and severe pelvic pains. Evidently, the mucous membranes of the Fallopian tubes and uterus have become congested, and the pain results from the arrest of the functional process, the exudation of blood.

The causes are plethora, exposure to cold, excitement of the emotions or passions, and a morbid condition of the blood. Sometimes congestion arises in consequence of a displacement of the uterus.

In the inflammatory variety, the mucous membrane of the uterus is the seat of irritation. The blood flows into the capillary vessels in greater abundance than is natural, and those vessels become overdilated and enfeebled and so altered in their sensibility as to produce local excitement and pain. It may be associated with inflammation of the ovaries, peritoneum, or bladder. Upon the return of the menses, there is a dull, heavy, fixed pain in the pelvis, which continues until the period is completed. There is generally tenderness of the uterus, and also leucorrhea during the intervals between each monthly flow.

In the membranous variety of dysmenorrhea, the entire mucous membrane which lines the cavity of the uterus, in consequence of some morbid process, is gradually detached and expelled at the menstrual period.

Symptoms. There are steady pains at the commencement of the menstrual flow, and they increase in violence and become decidedly expulsive. The mouth of the uterus gradually dilates, and finally, the membrane is forced out of the uterus, attended with a slight flow of blood and an entire subsidence of the pain.

The treatment, in all the preceding varieties of dysmenorrhea, should consist of measures to determine the circulation of the blood to the surface, and increase the perspiratory functions. Congestion and inflammation of the internal organs are generally induced by exposure to cold or from insufficient clothing. Sometimes they follow from neglect of the skin, which is not kept clean and its excretory function encouraged by warm clothing. The domestic treatment at the monthly crisis should be commenced by the administration of hot foot, and sitz-baths, after which the patient should be warmly covered in bed, and bottles of hot water applied to the extremities, back, and thighs. Dr. Pierce's Compound Extract of Smart-weed should be given in full doses, frequently repeated, to secure its diaphoretic, emmenagogue, and anodyne effects, which, for this painful affection, is unsurpassed. For the radical cure of this disease, whether of a congestive, inflammatory, or neuralgic character, Dr. Pierce's Favorite Prescription, which is sold by druggists, is a pleasant and specific remedy, which will most speedily correct the abnormal condition that produces the trouble, and thereby obviate the necessity of passing this terrible

ordeal at every monthly period. The patient should take two teaspoonfuls of the medicine three times a day, and keep up its use in these doses for weeks. Frequently, one month will suffice to cure, but in most cases, a longer season is required. In the end, the suffering patient will not be disappointed, but will become a new being, ready for the enjoyment and duties of life. The bowels should be kept regular throughout the treatment by the use of Dr. Pierce's Pleasant Pellets, if necessary. A hand or sponge-bath should be used daily to keep the skin active, and be followed by a brisk rubbing of the surface with a rough towel or flesh-brush. A wet sheet pack will cleanse the pores of the skin and invite the blood into the minute capillaries of the surface, and thus prove of great benefit. It should be repeated after an interval of seven days, but ought to be omitted if near the approach of a menstrual period. The clothing should be warm, to protect the system against changes of temperature; especially should every precaution be taken to keep the feet dry and warm. The patient should walk in the open air, and the distance should be regularly lengthened at each succeeding walk. If the course of treatment which we have suggested be faithfully pursued, a permanent cure will be effected.

In the obstructive variety of dysmenorrhea, some organic impediment hinders the exit of the menstrual blood from the uterus, which, consequently, becomes distended and painful. The pain may be constant, but is most acute when the uterus makes spasmodic efforts to discharge the menstrual blood. If these efforts prove successful, there is an interval of relief. Flexion or version of the womb may produce partial occlusion of the canal of the neck of the uterus, thus preventing the free flow of the menstrual fluid through it. Tumors located in the body or neck of the uterus often cause obstruction to the free discharge of the menses. Imperforate hymen and vaginal stricture also sometimes cause obstruction and give rise to painful menstruation. As these several abnormal conditions and diseases will be treated of elsewhere in this volume, we omit their further consideration here.

Partial adhesion of the walls of the neck of the womb may result from inflammation of the mucous lining, and prevent a free and easy exit of the menstrual fluid. In many cases, the contracted and narrowed condition of the canal of the cervix seems to be a congenital deformity, for we can trace it to no perceptible cause. It is also true that contraction and partial, or even complete, stricture of the cervix, or neck of the womb, often results from the improper application of strong caustics to this passage by incompetent and ignorant surgeons. Every person has observed the contraction of tissue caused by a severe burn, which often produces such a distortion of the injured part as to disfigure the body for life. A similar result is produced when the neck of the womb is burned with strong caustics. The tissues are destroyed, and, as the parts heal, the deeper-seated tissues firmly contract, forming a hard, unyielding cicatrix, thus constricting the

Fig. 3.

THE UTERINE DILATOR.

This instrument is introduced into the canal of the uterine neck with its blades closed. By means of the thumb-screw the blades are then separated as shown in this illustration, the cervical canal being thereby dilated to the required extent.

neck of the womb, through which the menses pass into the vagina.

Treatment. From the nature of this malady, it will readily be seen that no medical treatment can effect a radical cure. We must therefore resort to surgery. In a small proportion of cases, the stricture may be cured by repeated dilations of the constricted part of the cervical canal. This may be accomplished by using a very smooth probe which is fine at the point, but increases in size, so that its introduction will widen and expand the orifice and canal. The stricture may be overcome in many cases by using different sized probes. In some instances, we have employed the uterine dilator, represented by Fig. 3. We have also introduced sea-tangle and sponge tents into the neck of the womb, and allowed them to remain until they expanded by absorbing moisture from the surrounding tissues. The latter process is simple, and in many cases preferable. By means of a speculum (see Figs. 15 and 16), the mouth of the womb is brought into view, and the surgeon seizes a small tent with a pair of forceps and gently presses it into the neck of the womb, where it is left to expand and thus dilate the passage. If there seems to be a persistent disposition of the circular fibers of the cervix to contract, and thus close the canal, a surgical operation will be necessary to insure permanent relief. In performing this operation, we use a cutting instrument called the hysterotome (see Figs. 4 and 5). By the use of this instrument, the cervical canal is enlarged by an incision on either side. The operation is but slightly painful, and, in the hands of a competent surgeon, is perfectly safe. We have operated in a very large number of cases and have never known any alarming or dangerous symptoms to result. After the incision, a small roll of cotton, thoroughly saturated with glycerine, is applied to the incised parts, and a larger roll is introduced into the vagina. The second day after the operation, the cotton is removed, the edges of the wound separated by a uterine sound or probe, and a cotten tent introduced into the cervix, and allowed to remain, so that it will expand and thus open the wound to its full extent. This treatment must be thoroughly applied, and repeated every alternate day, until the incised parts are perfectly healed.

Many times patients cannot understand why it is that the operation of cutting the constricted cervix causes no pain; they often being entirely unconscious of the making of the incision. The explanation

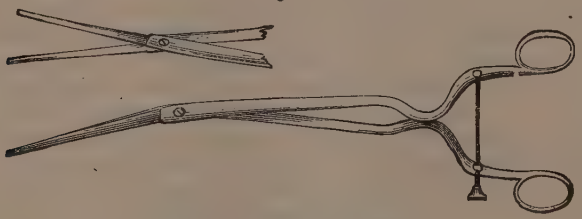
Fig. 4.

WHITE'S HYSTEROTOME.

In operating, this instrument is introduced into the canal of the neck of the womb, when a thumb screw in the end of the handle is turned, by which a small blade is thrown out from each side, and as the instrument is withdrawn from the canal an incision is made on each side, thus enlarging the passage. The upper figure illustrates the instrument closed, ready for introduction; the lower one, with the blades projected for cutting.

is easy. The cervix uteri, or neck of the womb, is supplied with but few nerves of sensation, and is almost as destitute of sensation as the finger or toe nails, the paring of which causes not the slightest pain.

Fig. 5.



STOHLMAN'S HYSTEROTOME.

This instrument has two cutting blades which shut past each other, as seen in the lower figure, so as not to cut when introduced into the canal of the uterine neck. After introduction, the cutting blades are separated, as shown in the upper figure, the extent of the incision being regulated by the thumb-screw attached to the handles, as represented in the lower figure.

On this account we never find it necessary to administer chloroform or any other anæsthetic when undertaking this operation. If the patient be extremly sensitive the application to the cervix of a weak solution of cocaine is quite sufficient to completely benumb or anæsthetize the parts so as to entirely avoid all pain from the operation.

MENORRHAGIA.

(Profuse Menstruation.)

The word *Menorrhagia*, which is of Greek derivation, literally means *monthly breaking away*, and is employed to designate profuse menstruation. This disorder must not be confounded with those hemorrhages which are not periodical, and which are due to other causes. The term *menhorrhagia* is restricted to an immoderate monthly flow. The menstrual flow may occur too often, continue too long, or be too profuse. It induces a feeble pulse, cold extremities, weak respiration, general debility, and may occur in opposite states of the system, *i. e.*, in women who have a plethoric and robust habit, or in those of flaccid muscles and bloodless features. When the menstrual discharge is natural, it is so gradual that by mixing with the vaginal secretions it is prevented from coagulating, while in this disease, clots are often formed.

Symptoms. In women of a *plethoric* habit, it is ushered in by itching and heat in the vagina, pain and a feeling of weight in the loins and lower part of the abdomen, and, at times, the breasts become hot and painful. There is considerable thirst, headache, and giddiness. At last, the blood appears and flows profusely, and all the violent symptoms at once subside. The rest of the period is marked by an inordinate flow, leaving the system weak from the loss of blood. It oftener occurs, however, in persons who are naturally weak and delicate, in which case the periods are more frequent and continue longer, and after a time they are renewed by any bodily exertion or mental emotion, so that a constant drain exists. If the flow of blood is not continuous, leucorrhea intervenes. The patient gradually loses strength and becomes languid, her face is pale and usually bloated, livid circles appear around the eyes, the appetite is impaired, the bowels are constipated, and the feet and ankles swollen. Lack of blood in the brain is indicated by headache, ringing in the ears, and dizziness. The patient is nervous and irritable, being disturbed by the slightest noise, and the heart palpitates after the least exertion.

Causes. The *first* form is caused by eating too much rich and highly-seasoned food, drinking wine, porter, ale, or beer, want of exercise, in brief, whatever induces plethora; the *second* results from an insufficient or poor diet, leucorrhea, frequent abortions, want of ventilation, inherent feebleness, and whatever depresses the vital powers. Either form may be due to syphilitic taints, excessive sexual indulgence, accidents of pregnancy, or organic diseases of the womb. The morbid affections of the womb most likely to induce menorrhagia, are granular ulceration of its mouth and neck, fungous degeneration of its lining membrane, and tumors within that organ. As these sub-

jects will be severally considered hereafter, we shall here dismiss them with this brief notice.

Profuse menstruation is very prone to occur in young women of a lymphatic temperament, whose organs are sleazy in texture.

Treatment. To control the excessive flow, the patient should remain in her bed, and assume the recumbent position until the period is passed. If circumstances prevent strict compliance with this rule, it should be observed as nearly as possible. Warmth should be applied to the feet, and cold cloths, which ought to be removed as soon as they become warm by the heat of the body, should be repeatedly placed upon the back and abdomen. A strong tea made from cinnamon bark, or witch-hazel leaves or bark, taken freely, will prove very efficacious in checking the flow. The fluid extract of ergot, in doses of from half a teaspoonful to a teaspoonful, in a little water or cinnamon tea, is one of the most effectual remedies in this affection. Another valuable remedy for arresting menorrhagia is an infusion of Canada fleabane; or the oil of this plant may be administered in doses of from five to ten drops on sugar. Gallic acid is also a good styptic to employ in these cases. If there is febrile excitement, a hard pulse, frequent and throbbing, and if there is headache, thirst, parched lips, hot and dry skin, as is sometimes the case, then menorrhagia is due to an augmented action of the heart and arteries, and the indication of treatment is to diminish vascular action. This may be temporarily accomplished by the use of veratrum viride, which should be continued until the flow is sufficiently diminished.

The means already suggested will generally prove effective in controlling the inordinate flow at the time. Treatment that will produce permanent relief should then be adopted. The condition of the skin, kidneys, and bowels, requires attention for noxious elements should not be retained in the system. To give tone to weakened pelvic organs we know of nothing more specific in its effects than Dr. Pierce's Favorite Prescription, which is sold by druggists. It should be taken continuously for weeks, in order to fully correct the extremely weakened condition of that organ. It also aids nutrition, and thus tones up the general system, so that in the form of profuse menstruation, resulting from debility, the patient is strengthened, her blood enriched, and her nervousness quieted, which constitutes the necessary treatment to make the cure permanent.

As women approach the critical age, and menstruation ceases, if they are anæmic, their condition is pitiable. This period is popularly denominated the *turn of life*. Under favorable circumstances, the vitality is decidely enhanced, and the decline of this function is attended with a revival of the bodily powers. But when this crisis has been preceded by excessive labor, when intemperance or excesses of any kind have deranged the bodily functions and perverted nutrition, when the mind has been long and deeply depressed, or when the insidi-

ous progress of disease of the heart, liver, or other important organs, occurs in consequence of irregularities of living, then there is danger of congestion of the uterus and a protracted and profuse menstrual flow, which favors a decline.

The treatment of this form of menorrhagia does not differ from that already suggested. The diet should be light and nourishing, and daily exercise, such as walking, riding, change of air and scenery, all will contribute to restoration. Especial attention should be directed to the condition of the bowels and liver. If the latter be deranged, Dr. Pierce's Golden Medical Discovery will be a most efficacious remedy. When there is a diminution of vital force, resulting in impaired nutrition and disorders of blood, an alterative is required which will insensibly and gradually restore activity by removing the causes of derangement. Impairment of nutrition is very frequently associated with functional or organic disease of the liver, and curative measures consist of the use of alteratives, friction baths, exercise, nutritive diet, and diversion of the mind. Whenever innutrition depends upon depravation of the blood or torpor of any of the secretory organs, the "Golden Medical Discovery" will prove to be an invaluable remedial agent, for it is an alterative and at the same time a blood restorative. If the bowels be costive small laxative doses of Dr. Pierce's Pleasant Pellets should be employed. The "Favorite Prescription" regulates the menstrual function by toning up the tissues of the uterus and restraining the escape of the menses from the orifices of the blood-vessels. While the diet should be nourishing, consisting of wild game, mutton, chicken, and wine, the patient ought not to debilitate the stomach by the use of strong tea or coffee. The circulation of the blood should be quickened by riding, walking, exposure to sunlight, and fresh air. The patient ought to engage in some light occupation, in which the mind will be constantly as well as agreeably employed, but not overtaxed. By pursuing the course of treatment, invalids suffering from menorrhagia may be permanently restored to health.

THE TURN OF LIFE.

(Cessation of the Menses.)

Menstruation commonly occurs at regular monthly intervals, during a period of about thirty years. The time for its cessation depends somewhat upon the date of its first appearance. In the temperate zones it commences at about the fifteenth year, and, consequently should terminate at the forty-fifth year. Instances are common, however, in which it has been prolonged until the fiftieth and even to the fifty-fifth year. In warm climates it commences and terminates at an earlier age.

As women approach the critical period of life, if the general health and habits be good, the discharge may gradually diminish, and, at length, totally disappear, without producing any particular inconvenience, but this seldom happens. More frequently, the discharge is entirely absent for six or seven weeks, and when it does return, it is more copious than usual. In some cases, the flow is not only too profuse, but too frequent. Many months may elapse before the menses return, and, even then, they are apt to be very pale and deficient in quantity.

The fluctuations of this function occasion irregularities and disturbances of the general health. When the flow of blood is diverted from the uterus, it is liable to be directed to the head or some other part of the body. In fact, there appears to be constitutional agitation, and disorders of all the organs. Perhaps one reason for calling this a critical period is, that if there is a morbid tendency in the system, a disposition to develop tumors of the breast or uterus, these are very liable to make rapid progress at this time, since they are not relieved by the customary local exudation of blood. It is a time favorable to the awakening of latent disorder and morbid growths, for, at the decline of the menstrual function, the uterus is not so capable of resisting vitiating influences.

There is greater liability to irritation of the bladder and rectum, and the menstrual flow may be superseded by a white, acrid discharge, caused by an inflammation of the mucous membrane of the vagina. Even if the system be not enfeebled by excessive losses of blood, debility may result from a continued irritation of the uterine organs, and cause the morbid discharge. The nervous system sympathetically responds, becoming exceedingly irritable, and thus implicating in this derangement every bodily organ. In some constitutions, the change of any habit is almost impossible, particularly if it is improperly acquired, or detrimental to health; and so we have sometimes thought respecting this function, that the more it has been abused and per-

verted during the time of its natural activity, the greater is the disturbance occasioned when it ceases.

Treatment. There should be regularity in all the habits of life. Women are too apt to approach this important period without due care and consideration. When the physical system is about to suspend a function, it is folly to endeavor to perform the labor or assume the responsibilities whichwere permissible when the constitution was more robust.

How the duties of each day and hour weigh upon the energies of the mother! What intense solicitude and yearning she experiences! How unselfish is that mother who each day works steadily and faithfully for others, and who is conscious of the hidden dangers that lurk around her pathway! With confiding faith and love, she commends the interests of her children to Him who doeth all things well. She anticipates the wants of her family and strives to supply the desired comforts, thus wasting her strength in the labors prompted by her loving nature. Would it not be a greater comfort to those children to have the counsel of their dear mother in later years, than to have the bitter reflection that she sacrificed her health and life for their gratification?

Unconsciously, perhaps, but none the less certainly, do women enter upon this period regardless of the care they ought to bestow upon themselves. Without sufficient forethought or an understanding of the functional changes taking place, they over-tax their strength, until, by continuous exertion, they break down under those labors which, to persons of their age, are excessive and injurious. Is it strange, when woman has thus exhausted her energies, when her body trembles with fatigue and her mind is agitated with responsibilities, that the menses capriciously return, or the uterus is unable to withstand congestion, and capillary hemorrhage becomes excessive? If the physical system had not been thus exhausted, it would have exercised its powers for the conservation of health and strength. It is better to be forewarned of the ills to which we are liable, and fortify ourselves against them, rather than squander the strength intended for personal preservation. Let every woman, and especially every *mother*, consider her situation and properly prepare for that grand climacteric, which so materially influences her future health and life.

The general health should be carefully preserved by those exercises which will equalize the circulation of the blood, and the regular action of the bowels should be promoted by the use of those articles of diet which contribute to this end. Relieve the mind of responsibility, keep the skin clean, and enrich the blood with tonics and alteratives. For the latter purpose, use Dr. Pierce's Favorite Prescription and "Golden Medical Discovery." If these remedies fail, seek professional advice. A careful regulation of the habits, strict attention to the requirements of the system, and the use of tonic medicines, will very frequently render the employment of a physician entirely unnecessary.

LEUCORRHEA.

("WHITES.")

Leucorrhea is the symptomatic manifestation of some uterine or vaginal affection, vulgarly called "whites." We say *symptomatic*, for the white or yellowish discharge, which we term leucorrhea, is not a disease, but a symptom of some uterine or vaginal disorder. We call it a *white* discharge to distinguish it from the menses and uterine hemorrhages. It varies, however, in color and consistency from a white, glairy mucus to a yellow or greenish, purulent, fetid matter. Sometimes it has a curdled appearance, at others, it is of the consistency of cream. Leucorrhea is the most common symptom of uterine derangement, and there are few females who are not affected by it at some period of life. It may originate either in the vagina or uterus, and it is accordingly termed either vaginal or uterine leucorrhea. The nature of leucorrhea is analogous to that of nasal catarrh. In a healthy state, the lining membrane of the genital organs secretes sufficient mucus to moisten them; but, if the mucous membrane is temporarily congested or inflamed, the secretion becomes profuse, irritating, and offensive. Vaginal and uterine leucorrhea are essentially different in character, the former being an acid, and the latter an alkaline secretion, and, while the first is a creamy, purulent fluid, the latter is thick and ropy, like the white of an egg. In fact, the latter discharge is rich in albuminous matter and blood-corpuscles, hence, its great debilitating effect upon the system, and, if not promptly arrested it is likely to produce *vaginitis*, *pruritus vulvæ*, or *vulvitis*.

Vaginitis is indicated by intense inflammation of the mucous membrane of the vagina. When this affection is present the patient experiences a sense of burning heat, aching and weight in the region of the vagina, violent and throbbing pains in the pelvis, and the discharge is profuse and very offensive. There is also a frequent desire to urinate, and the passage of the urine causes a sensation of scalding.

Pruritus Vulvæ. The discharge irritates the nerves of the external genital parts, thus producing an almost unendurable itching. Scratching or rubbing the parts only aggravates the affection. The patient is tormented night and day, is deprived of sleep, and naturally becomes despondent. Pruritus vulvæ, in its severest forms, is often developed when the discharge is scarcely noticeable. It is the most common result or accompaniment of leucorrhea.

Vulvitis. This term indicates an inflammation of the lining membrane of the external genital parts. Sometimes the inflammation extends to the deeper tissues, causing great pain, and even suppuration, resulting in the formation of an abscess. The attack is indicated by redness, swelling, and a feverish state of the affected parts, which

is quickly followed by a profuse flow of yellow pus, and, in some instances, small ulcers are formed on the affected parts.

Symptoms. The sufferer from leucorrhea becomes pale and emaciated, the eyes dull and heavy, the functions of the skin, stomach and bowels become deranged, more or less pain in the head is experienced, sometimes accompanied with dizziness, palpitation is common, and, as the disease progresses, the blood becomes impoverished, the feet and ankles are swollen, the mind is apprehensive and melancholy, and very frequently the function of generation is injured, resulting in complete sterility. Exercise produces pain in the small of the back and the lower portion of the spine, and, owing to a relation of the vaginal walls, the womb falls far below its natural position, or turns in various directions, according to the manner in which the weight above rests upon it. Ulcers are apt to appear upon the mouth of the womb, the matter from which tinges the discharge and stains the linen. Hysteria is often an attendant of this disease.

Causes. The immediate cause of leucorrhea is either congestion or inflammation of the mucous membrane of the vagina or womb, or both. The exciting causes are numerous. Among others, deranged menstruation, prolonged nursing of children, pregnancy, abortions, excessive indulgence in sexual intercourse, uncleanliness, piles, uterine ulcers, and displacement of the womb, are the most common. In brief, it usually accompanies every uterine disorder which vitiates and reduces the system. During childhood, particularly in scrofulous children, discharges from the vagina are not unfrequent, owing to worms or other intestinal irritation.

Among the organic causes of leucorrhea, are ulceration of the mouth or neck of the womb and tumors. These will be considered hereafter.

Treatment. We have dwelt upon leucorrhea because of its prevalence and in order to exhibit the various forms it may assume. These reasons long ago prompted us to investigate it; and, ascertaining the derangement to consist in a relaxation of the walls of the vagina, attendant upon depressed vitality, for many years we experimented with various medicines to find those that would exercise specific properties in restoring the tissues involved to a natural condition, thereby arresting the abnormal discharge. Our efforts in that direction have been very successful, and our expectations more than realized. The treatment which we shall recommend is rational, based upon the pathological conditions of the disease, and has been attended with the greatest success.

It embraces the use of those general restoratives and specific uterine tonics, so harmoniously combined in Dr. Pierce's Favorite Prescription, a remedy which has achieved unparalleled success in the cure of this affection and won the highest praise from thousands of grateful women. It many cases, it is well to accompany its use with alterative treatment, for which the "Golden Medical Discovery" will be found

especially effective. It is an absurd practice to arrest the discharge with astringent injections *alone*. The weak and lax walls of the vagina, as well as the other tissues of the system, require strength, and this can be gained only by the use of general and special tonics. Appropriate injections as *auxiliary* treatment will very much *assist* in the cure. The "Favorite Prescription" is a special tonic for the affected parts, and the "Golden Medical Discovery" is the best general alterative of which we have any knowledge. They may be taken in alternate doses every day. If the patient is very pale and anæmic, one drachm of the carbonate, or two drachms of the citrate or pyrophosphate of iron, may be advantageously added to each bottle of the "Favorite Prescription." If the carbonate be employed, as it is insoluble, the bottle should be well shaken every time before using. The functions of the skin should be kept active by frequent baths, and the patient, if able, should walk or ride in the open air, and freely expose herself to the sunshine. If the invalid be too weak to exercise much, she should go out in warm weather and sit in the open air. Sunshine is no less important in maintaining animal, than in supporting vegetable growth and health. The human being, like the plant, sickens and grows pale, weak and tender, if secluded from the sunlight. The apartments occupied should be thoroughly ventilated. Many women are sickly and feeble because they live in badly ventilated rooms.

We cannot too strongly urge in this, as in all other chronic diseases peculiar to women, that the bowels be kept regular. Frequent, but small doses of Dr. Pierce's Pleasant Pellets will prove most beneficial. If the vaginal passage is tender and irritable, an infusion, or tea of slippery-elm bark is very soothing, and may be used freely with a vaginal syringe. Whatever injection is employed, should be preceded by the free use of Castile soap and warm water, to thoroughly cleanse the parts. One part of glycerine to six parts of water is a soothing lotion when there is much tenderness, heat, and pain in the vagina. If there be no great tenderness in the vagina, or if the acute, inflammatory symptoms have yielded to the lotions already suggested, then a mere tonic and astringent injection should be employed. An infusion of Peruvian bark, witch-hazel leaves or bark, or either of these combined with golden-seal root, make a very valuable lotion to be employed. A teaspoonful of tartaric acid in a pint of warm water is a *specific*, in some cases acting like magic. Dr. Sage's Catarrh Remedy is as perfect a specific in some cases of leucorrhea as it is for nasal catarrh. To render it more astringent, a gill or two of oak bark tea, or of the infusion of Peruvian bark or witch-hazel, may be added to each pint of the liquid. This will improve its efficacy in cases in which the discharge is very profuse and resists the simpler lotions. Whatever lotion is employed, *always use it warm.*

If *pruritus* or severe itching, be also a symptom, the itching will readily yield if the parts be cleansed with Castile or other fine soap

and warm water, followed by the application of a compound composed of two ounces of glycerine, one ounce of rose-water, and one drachm of sulphite of soda; or, for the sulphite of soda, two drachms of borax may be substituted. The following lotion is a good one to relieve pruritus: sugar of lead, two drachms; carbolic acid, half a drachm;

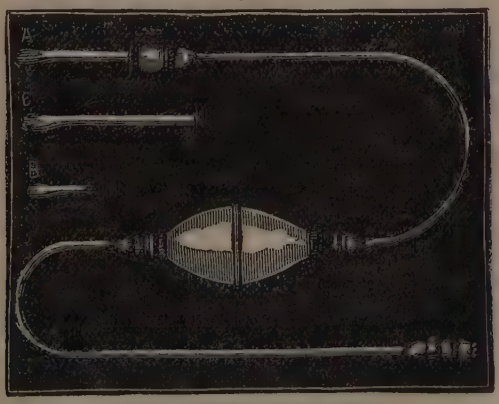
Fig. 6.

FOUNTAIN SYRINGE.

laudanum, four ounces; glycerine, four ounces; water, four pints; mix. This may be applied to the itching parts, and also injected into the vagina.

How to Use Vaginal Injections. We usually recommend the Fountain Syringe illustrated in Fig. 6, as the most convenient instru-

Fig. 7.



SOFT RUBBER-BULB SYRINGE.

ment for administering vaginal injections. The fountains supplied by us are of soft rubber, and have extra nozzles, with which to make rectal, nasal or ear irrigations. There is also a large, long nozzle for vaginal injections. It is channeled so as to permit the free clearing

away of the secretions as the Douche is employed. The Fountain Syringe can be used without assistance, the flow of fluid is gradual, and with a force that can be varied, by raising or lowering the reservoir, yet is never so great as to be liable to produce injurious effects.

The syringes usually sold with small nozzles or pipes are of little or no value for vaginal injections. In many instances so small a tube will pass readily into the canal of the uterus, and hence there has frequently resulted an injection of a portion of the fluid into the uterus itself, producing severe pain. It is important, therefore, in using the Vaginal Douche to employ only a large tube that has grooves in its surface for the free clearing away of the fluid as it runs from the fountain.

Where it is desired to obtain relief from a congested, inflamed or sensitive and irritable state of the mucous surface, the employment of a large quantity of water as hot as it can be borne, is of the greatest remedial value. It rapidly diminishes the size of the blood vessels, and aids in bringing about a normal circulation in the parts.

As a rule, in taking the Douche with the Fountain Syringe the rubber bag is filled, and suspended from a nail or hook at a height of from two to five feet above the patient, and the fluid passes through the tube by force of gravity, thus requiring no muscular exercise. The force of the stream depends upon the height of the fountain above the outlet nozzle. It is only necessary that the patient should assume a comfortable position where the fluid which comes from the vaginal canal can flow into a water closet, or any convenient vessel.

After a thorough cleansing of the vaginal surfaces of mucus, by means of the warm or hot water, it is sometimes advisable to inject remedial fluids. These injections may readily be made with the fountain or bulb syringe, introducing not less than from two to four ounces. This may be retained sufficiently long to exert its remedial effects upon the mucous surface, which usually takes from five to eight minutes. The hips should be elevated, and the nozzle of the syringe surrounded by a napkin or other similar material, upon which moderate compression can be made so as to retain the fluid in the vagina for the necessary period.

When suffering from any uterine trouble, it is necessary to avoid severe fatigue. The amount and character of exercise should be suited to the condition of the patient; while, most important of all, the strictest abstinence from sexual intercourse should be observed.

To those who are unable readily to obtain the Fountain Syringe above recommended we can send by mail, post-paid, one of these instruments on receipt of $2.00.

A Soft Rubber-bulb, or Pump Syringe (illustrated in Fig. 7), not so good for making vaginal injections, can be sent by us, post-paid, for from $1.00 to $1.50, the price varying with the quality and size.

STERILITY.

(Barrenness.)

Real sentiment and interest center in fecundity, since the desires and happiness of mankind are consummated in marriage and procreation. How dreary would life be without love, companionship, and the family! How precious are the ties that bind our hearts to father, mother, daughter, and son! The love of children is innate in the heart of every true man and woman. Each child born supplements the lives of its parents with new interest, awakens tender concern, and unites their sympathies with its young life.

How dreary is the thought that one may attain a ripe old age with neither son nor daughter to smooth the decline of life, or sorrow for his or her departure! How many women desire a *first-born* of love, the idol of their waiting hearts, a soul, which shall be begotten within, clothed with their own nature, and yet immortal! It is a natural instinct, this yearning of the heart for offspring; and yet little is said upon this subject, in which so much is experienced. All that is beautiful and lovely in woman, finds its climax in motherhood. What earthly being do we love so devotedly as our mother?

Fig. 8.

Men and women exhibit but little concern, mere idle curiosity, perhaps, on this subject, unless, perchance, there is no evidence of their own reproductive powers. If, however, these appear to be deficient, then few topics are more deeply interesting or investigated with greater personal solicitude. Such persons will seldom submit their condition to the family physician, for it is a delicate subject, involving personal considerations, and, therefore, they prefer to consult with one who cannot connect their unfortunate situation with any of the incidents which enter into the history of their lives. This is very natural, and sometimes is the only way to keep private matters profoundly secret. Being widely known as specialists, devoting our undivided attention to chronic affections, and having unusual facilities for the investigation and management of such cases, we have been applied to in innumerable instances, to ascertain the causes of barrenness and effect its removal

It is admitted that the question of a woman's sterility is practically decided in the first three years of married life, for statistics show that less than ten out of a hundred women who do not indicate their fertility in the first three years of wedlock ever bear children. We have treated many who gave no evidence of fertility for a much longer period of married life, and who afterwards gave birth to children.

We are unable to state the proper ratio of the number of the married who are childless; much less have we the right to assume that all who decline the responsibilities of motherhood are necessarily barren.

Causes. The causes of barrenness may be obliteration of the canal of the neck of the womb, sealing up of its mouth, or inflammation resulting in adhesion of the walls of the vagina, thus obstructing the passage to the uterus. In the latter case, the vagina forms a short, closed sac. In some instances, the vaginal passage cannot be entered in consequence of an imperforate hymen. Again, the cause of barrenness may either be a diseased condition of the ovaries, preventing them from maturing healthy germs, or chronic inflammation of the mucous membrane of the neck of the uterus, which does not render conception impossible, but improbable. It is one of the most common causes of unfruitfulness, because the female seldom, if ever, recovers from it spontaneously. It has been known to exist for twenty or thirty years.

Chronic inflammation of the vagina also gives rise to acrid secretions, which destroy the vitality of the spermatozoa. Suppression of the menses, or any disorder of the uterine functions, may disqualify the female for reproduction. Flexions of the uterus, displacements, congestions, and local debility, may likewise prevent fertility. Sterility may result from impaired ovarian innervation or undue excitement of the nerves, either of which deranges the process of ovulation. Even too frequent indulgence in marital pleasures sometimes defeats conception. Prostitutes who indulge in excessive and promiscuous sexual intercourse, seldom become pregnant. Any thing that enfeebles the functional powers of the system is liable to disqualify the female for reproduction.

Treatment. An extensive observation and experience in the treatment of sterility, convinces us that, in the majority of cases, barrenness is due to some form of disease which can be easily remedied. If the passages through the neck of the uterus be closed or contracted, and this is the most frequent cause of sterility, a very delicate surgical operation, which causes little if any pain or inconvenience to the patient, will remove the impediment to fertility. In many of these cases, we have succeeded in removing the contraction and stricture of the neck of the womb by dilatation. When the vaginal walls are so firmly united as to prevent copulation, a surgical operation may be necessary to overcome their adhesion. When the hymen obstructs the vaginal orifice, a similar operation may be necessary to divide it. Vaginismus, which will be treated elsewhere, sometimes causes sterility.

It is proper that we should suggest to the barren, that if sexual intercourse be indulged in only very abstemiously, conception will be more likely to occur than if moderation be not exercised. We may also very properly allude to the fact that there is greater aptitude to

fecundation immediately before and soon after the menstrual periods than at other times. In fact, many medical men believe that it is impossible for conception to occur from the twelfth day following menstruation up to within two or three days of the return of the menses.

Elongation of the Neck of the Womb. An elongated condition of the neck of the womb, illustrated by Fig. 9, is frequently a cause of sterility. If this part is elongated, slim and pointed, as shown in the illustration, it is apt to curve or bend upon itself, thus constricting the passage through it and preventing the transit of seminal fluid into the womb. An eminent author says, "Even a slight degree of elongation, in which the cervix, or neck, has a conical shape, has been observed to be frequently followed by that condition [sterility]." Our own observations, embracing the examination of hundreds of sterile women annually, lead us to believe that this condition is among the common causes of barrenness. But, fortunately, it is one of those most easily overcome.

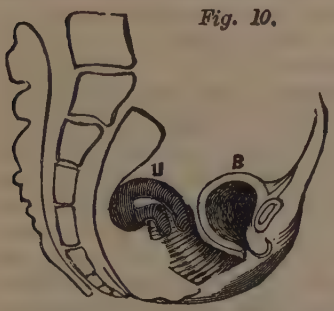
Fig. 9.

Conoid Neck.

Treatment. If the neck is only slightly elongated, this consists in dividing the slim projecting part, by the use of the *hysterotome*. If it be a more aggravated case, a portion of the womb must be removed. This operation is perfectly safe and simple, and, strange as it may seem to those who are not familiar with operations upon the womb, is not painful. We have never seen any bad results follow it, but have known it to be the means of rendering numerous barren women fruitful.

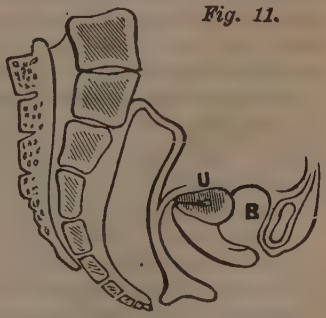
Flexions and Versions of the Womb. Flexion of the uterus, in which it is bent upon itself, as illustrated in Fig. 10, produces a bending of the cervical canal, constricting or obliterating it, and thus preventing the passage of spermatozoa through it. Version of the uterus,

Fig. 10.



Flexion. U, Uterus. B, Bladder.

Fig. 11.



Version. U, Uterus. B, Bladder.

in which its top, or *fundus*, falls either forward against the bladder (anteversion), as illustrated in Fig. 11, or backward against the rectum (retroversion), may close the mouth of the uterus by firmly pressing it against the wall of the vaginal canal, and thus prevent the passage of spermatozoa into the womb. The treatment of these several displacements will be considered hereafter. We may here remark, however, that they can be remedied by proper treatment. Our mechanical movements, manipulations, and kneadings are invaluable aids in correcting these displacements.

Disease of the Ovaries. Sterility may be due to disease of the ovaries. Chronic inflammation of the ovaries may result from uterine disorders or peritonitis, and is commonly attended with a sense of fullness and tenderness, and pain in the ovarian region. These symptoms are more apparent upon slight pressure, or during menstruation. This disease is curable, although it may require considerable time to perfectly restore the health. When this chronic affection is the result of other derangements, the indications are to restore health in the contiguous organs, and to relieve excessive congestion and nervous excitement in the ovaries. The patient should be very quiet during the menstrual period and avoid severe exercise or fatiguing occupations, not only at those periods, but during the intervals. All measures calculated to improve the general health should be adopted. Use injections of warm water, medicated with borax, soda, and glycerine, in the vagina every night and morning. The surface of the body should be kept clean by the daily employment of hand-baths, followed by brisk friction. The bowels, if constipated, should be regulated as suggested for constipation. The system should be strengthened by Dr. Pierce's Favorite Prescription, and, if the blood be disordered, no better alterative can be found for domestic use than Dr. Pierce's Golden Medical Discovery. If the patient does not in a few months improve under this treatment, the case should be placed under the immediate care of some physician well qualified by education and experience to critically examine and successfully treat this affection.

Chronic Inflammation and Ulceration of the Uterus, a Cause of Sterility. When enumerating the causes of barrenness we mentioned that chronic inflammation of the mucous membrane of the mouth and neck of the womb was the most common affection that defeats conception. Of all diseases of female organs, this is, without doubt, the most common, and, since it does not at first produce great inconvenience or immediately endanger life, it does not excite the attention which its importance demands. It is overlooked, and, when the attention is directed to the existence of this long-neglected disease it appears so trivial that it is not regarded as being the real cause of infertility in the patient.

When this disease has existed for a long time, the very structure of the parts involved becomes changed. The glands of the cervical mem-

brane secrete a glairy mucus, resembling the white, or albuminous part of an egg. The secretion is thick and ropy, and fills the entire mouth and neck of the uterus, thus preventing the entrance of the spermatozoa. The mucous membrane becomes thickened, the inflammation extends to the deeper structures, and, on examination through the speculum, we find the mouth of the uterus inflamed, hardened, and enlarged, as represented in Fig. 22, Colored Plate IV, or in Fig. 23 of same plate. Fig. 25, Plate IV, shows the mucous follicles just as they are found all along the neck of the womb, in a state of inflammation and enlargement, and filled with a fluid resembling honey, giving rise to ulceration and a thick discharge, as illustrated in Fig. 23, Colored Plate IV.

Feebleness of the constitution, impoverishment of the blood, a scrofulous diathesis, want of exercise, uncleanliness, tight lacing, disappointment, excessive excitement of the passions, the use of pessaries for displacement of the uterus, overwork, and taking cold, all predispose the cervical membrane to chronic ulceration.

The inflammation may be so mild, and the discharge so trifling in quantity, as scarcely to attract attention. But after it obtains a firmer hold, and, in most cases, it is aggravated by exposure or neglect, the patient experiences dragging sensations about the pelvis, and pain in back and loins, accompanied with a bearing-down sensation and numbness or pain extending to the thighs.

The discharge is thick, starch-like, and generally irritating. The patient becomes irascible, capricious, querulous, and sometimes moody and hysterical. She is easily discouraged, her appetite and digestion become impaired, and she grows thin and does not look or act as when in health.

Treatment. In offering a few hints or the domestic management of these abnormal conditions, we would at the same time remark, that, while health may be regained by skillful treatment, recovery will be gradual. We especially wish to guard the patient against entertaining too strong expectations of a speedy recovery. Although she may employ the best treatment known, yet from three to five months may elapse before a perfect cure can be effected. In persons of scrofulous diathesis, in whom the recuperative forces are weakened, it is very difficult to effect a radical cure. It is equally true, however, that under domestic management alone, thousands have been restored to perfect health and fruitfulness.

Hygienic management consists in toning the functions of the skin by daily bathing the surface of the body, and quickening the circulation by brisk friction. The patient should rise early in the morning, and exercise in the fresh and invigorating air. Those who sleep in warm rooms, or spend much of their time in bed, will continue to have congestion of the uterus, and habitual discharges from this enfeebled organ. The patient should take daily walks, increasing the length of

the excursion from time to time, but not to the extent of producing fatigue. The bowels, if constipated, should be regulated. Strengthen the system by using Dr. Pierce's Favorite Prescription, to each bottle of which add two drachms of citrate or pyrophosphate of iron. The mouth and neck of the uterus should be thoroughly cleansed by the use of the syringe, as suggested for the treatment of leucorrhea. The use of some one of the lotions there advised will also be beneficial, if thoroughly applied.

A most valuable course of local treatment, which may be adopted by any intelligent lady without the aid of a physician, and one that will result in the greatest benefit when there is morbid sensibility, congestion, inflammation, or ulceration about the mouth or neck of the womb, consists in applying to those parts a roll of medicated cotton or soft sponge, allowing it to remain there for twelve hours at a time. A piece of fine, soft, compressible sponge, as large as a hen's egg, or a roll of cotton batting of the same size, thoroughly saturated with pure glycerine, or the following preparation: Powdered alum, half a teaspoonful; carbolic acid, ten drops; pure glycerine, four ounces, should have securely fastened to it a stout cord a few inches long. The vagina and affected parts having been thoroughly cleansed with warm water and Castile soap, as advised in the treatment of leucorrhea, the sponge or cotton should be passed up the vagina with the finger, and pressed rather firmly against the mouth and neck of the womb, which, being enlarged, and, consequently falling below its natural position, will generally be low down in the vagina, and so hardened as to be unmistakably distinguished from the surrounding parts by the sense of touch. The glycerine, having a very strong affinity for water, will absorb large quantities of the *serum*, which has been effused into the affected tissues in consequence of their congestion and inflammation, and thus reduce the inflammation and enlargement. This is the cause of the profuse, watery discharge which follows the application. In twelve hours after the sponge or cotton has been applied, it should be removed by means of the attached thread, one end of which has been purposely left hanging out of the vagina. Then thoroughly cleanse the vagina with warm water, use one of the lotions suggested for the treatment of leucorrhea, and repeat the glycerine application the following day or every other day.

If there is no irritation or tenderness of the vagina, add one drachm of tincture of iodine to each ounce of the glycerine, alternating the use of this with that of pure glycerine; or, the iodine and glycerine may be used every third day, and the glycerine alone on the two intervening days. As the iodine will color the finger somewhat, it is well to know that this unpleasant effect may be almost or entirely avoided by coating that member with lard, sweet oil, or vaseline. The stain may be readily removed with a solution of iodide of potassium. If the discharge be very fetid, three grains or drops of carbolic acid

should be added to each ounce of the glycerine. The carbolic acid is very beneficial when there is ulceration of the mouth of the womb, as represented in Figs. 22 and 23, Colored Plate IV.

It is well to alternate Dr. Pierce's Golden Medical Discovery with Dr. Pierce's Favorite Prescription, taking of each three times a day. By persevering in this course of treatment, nine-tenths of those who are thus afflicted will improve and be fully restored to health, fruitfulness and happiness. If barrenness continue, the case should be unreservedly submitted, either in person or by letter, to a physician skilled in the diagnosis and treatment of these affections.

From the foregoing remarks, the reader will perceive that there are a variety of diseased conditions, any one of which may produce sterility. It is equally true that nearly all these conditions may be easily cured by proper medical or surgical treatment. A frequent cause of barrenness is stricture of the neck of the uterus. No medicine that a woman can take or have applied will remove this unnatural condition. Fortunately, however, the means to be employed cause no pain, are perfectly safe, and the time required to effect a cure is short, rarely over twenty or thirty days.

DISPLACEMENTS OF THE WOMB.

The relative positions of the womb and surrounding organs, when in a state of health, are well illustrated by Fig. 2, page 5. The womb is supported in its place by resting upon the vaginal walls, and by a broad ligament on either side, as well as by other connective tissues. By general debility of the system, the supports of the womb, like the other tissues of the body, become weakened and inadequate to perfectly perform their duty, thus permitting various displacements of that organ.

Prolapsus, or Falling of the Uterus, is a common form of displacement. It has been erroneously regarded as a local uterine disease, requiring only local treatment instead of being considered as a symptom of general derangement, and, therefore, requiring constitutional treatment. Hence, variously devised supporters have been invented to retain the womb in position after its replacement. It is a law of physiology, that the muscular system is strengthened by use, and that want of exercise weakens it. The blacksmith's arm is strengthened and developed by daily exercise. Support his arm in a sling, and the muscles will be greatly weakened and wasted. So when artificial supports are used to retain the womb in position, thereby relieving the supporting ligaments and tissues of their normal function, the *natural* supports of the uterus are still further weakened, and the prolapsus will be worse than before when the artificial support is removed. Besides, all these mechanical contrivances are irritating to

the tissues of the womb and vagina, and frequently produce congestion, inflammation, and even ulceration, thus rendering the patient's condition much worse than before their employment. These worse than useless appliances should never be resorted to for the temporary relief which they sometimes afford. Constitutional treatment together with appropriate applications is the only effectual method of remedying this morbid condition.

Symptoms. When the displacement is sufficient to cause any serious disturbance, the prominent symptoms are a sensation of dragging and weight in the region of the womb, pain in the back and loins, inability to lift weights, great fatigue from walking, leucorrhea, a frequent desire to urinate, irritation of the lower bowel, and derangement of the stomach. The womb may protrude from the vaginal orifice; in very rare cases, wholly protrudes, and may be inverted.

Causes. As we have already stated, general debility favors prolapsus of the womb, but various general and local circumstances and conditions also favor its occurrence. Wearing heavy garments supported only by the hips, compressing the waist and abdomen with tight clothing, thus forcing the abdominal organs down upon the womb, are fruitful causes of this affection. Excesses in sexual intercourse give rise to leucorrhea, producing a relaxed condition of the vagina, upon which the womb rests, and, in this way, one of its supports is weakened. Enlargement of the uterus from congestion, and inflammation or tumors also favor prolapsus. Abortion may leave the womb enlarged, its supports weakened, and result in this displacement.

Flexions and Versions. Instead of sliding down into the vagina, as in prolapsus, the uterus is liable to fall or be forced into other unnatural positions. When the uterus is bent upon itself, it is called *flexion*. If the bending is backward, it is called *retroflexion;* if forward, *anteflexion*. Fig. 12, represents the former condition, the uterus being flexed backward so that the fundus, or upper part of the womb, is pressed against the rectum, while the neck of the uterus remains in its natural position. This is a common form of displacement, and generally occurs between the ages of fourteen and fifty.

Fig. 12.

Retroflexion. U, Uterus (Womb). B, Bladder.

Symptoms. The prominent symptoms of retroflexion of the uterus are a sense of weight in the region of the rectum, difficulty in evacuating the bowels, and, sometimes a retention of the feces. There may also be suppression of the urine, and the menses may be diminished in

quantity. If retroflexion is due to a chronic enlargement of the uterus, caused by abortion or parturition, the patient suffers from an immoderate menstrual flow.

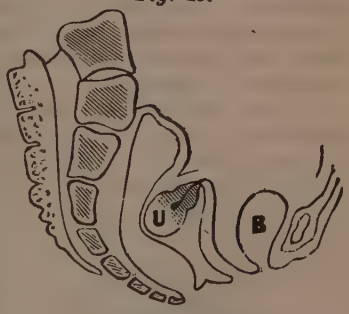
Causes. The principal causes of retroflexion are congestion, enlargement and tumors of the uterus. Congestion is liable to occur in women possessing an extremely active temperament, as well as in those of sedentary and indolent habits. Retroflexion is a common displacement in both married and unmarried women; it is a secondary affection, and, when it is caused by congestion, the menses are painful and reduced in quantity, and there is pain in the back and a sense of weight in the region of the rectum. In some instances, there is a reflex irritation of the mammary glands, and a consequent secretion of milk. There may also be nausea and vomiting, which often lead to the erroneous opinion that the patient is pregnant.

Anteflexion of the uterus denotes a bending forward of the body and fundus of the uterus, while the neck remains in its natural position.

In versions of the uterus, neither the body nor the neck of the womb is bent upon itself, but the whole organ is completely turned backward or forward.

Retroversion of the uterus, illustrated by Fig. 13, signifies a change in the position of the womb, so that the upper, or fundal portion of the organ drops back toward the concavity of the sacrum, while the neck preserves a straight line in the opposite direction. The fundus presses forcibly against the rectum, while the upper part of the vagina bends abruptly and forms an acute angle near the mouth of the uterus.

Fig. 13.



Retroversion. B, Bladder. U, Uterus (Womb).

Symptoms. Retroversion is indicated by bearing-down pains in the loins and difficulty in evacuating the bowels. The feces may accumulate in the rectum, because they cannot pass this obstruction.

Causes. Jumping, falling, or undue pressure from the contents of the abdomen, may suddenly cause retroversion of the uterus. Sometimes retroversion results from obstinate constipation.

Anteversion. This term designates another unnatural position of the uterus, in which the fundus, or upper part of the organ, falls forward, as illustrated by Fig. 14, while the neck points towards the hollow of the sacrum. This position of the womb is the reverse of that of retroversion. In its natural position, the fundus of the uterus is slightly inclined forward, and any pressure, or forward traction, is liable to cause it to fall still further in that direction.

Symptoms. One of the most common symptoms of anteversion is a frequent desire to urinate, in consequence of the pressure of the uterus upon the bladder. The free flow of the menses is sometimes obstructed.

Fig. 14.

Anteversion. U, Uterus. B, Bladder.

Causes. The causes are tight lacing, prolapse of the abdominal organs, weakness of the supporting ligaments, and enervating habits.

Treatment. In treating all the various displacements of the uterus, the prominent indication is to tone up the general system, for by so doing we also strengthen the uterine supports.

Digestion should be improved, the blood enriched, and nutrition increased, so that the muscles and ligaments which retain the womb in position may become firm and strong. The womb will thus be gradually drawn into position by their normal action and firmly supported. It is a great mistake, made by physicians as well as patients, to consider a displacement of the uterus a *local* disease, requiring only local treatment. A restoration of the general health will result in the cure of these displacements, the uterus will regain its tone and muscular power, and the local derangement, with its attendant pain and morbid symptoms, will disappear.

It is true that displacements of the womb may be associated with inflammation and ulcers, which require local treatment, as elsewhere suggested; but simple displacement of the uterus may be remedied by pursuing the following course of sanitary and medical treatment. Sleep on a hard bed, rise early, bathe, and take a short walk before breakfast. Dress the body warmly and allow sufficient space for the easy and full expansion of the lungs. Eat moderately three meals a day, of those articles which are nutritious and readily digested. Keep the bowels regular by the use of proper food. If they are coustipated, use Dr. Pierce's Pellets to keep them open and regular. Avoid retaining the standing position too long at a time, especially when the symptoms are aggravated by it. Many energetic women disregard their increasing pains, and keep upon their feet as long as possible. Such a course is extremely injurious and should be avoided.

As a general restorative and uterine tonic, nothing surpasses Dr. Pierce's Favorite Prescription, which is sold by druggists and accompanied with full directions for use. If leucorrhea is an attendant symptom, the treatment suggested for that condition should be employed. A soft sponge or roll of cotton saturated with the following preparation: Powdered alum, one-half drachm; carbolic acid,

Plate IV.

Fig. 21

Fig. 22.

Fig. 23

Fig. 24

Fig. 25

Fig. 26

ten drops; pure glycerine, four ounces; introduced into the vagina and pressed up against the womb, on going to bed, and allowed to remain for twenty-four hours, often exerts a very beneficial influence, especially if there is much inflammation or congestion of the uterus.

By persevering in the rational treatment which we have suggested for the various displacements of the womb, nearly all who suffer from such derangements may be fully restord to health. The patient should not expect *speedy* relief. Considerable time will be necessary to bring the general system up to a perfect standard of health, and, until this is accomplished, no great improvement in the distressing symptoms can be expected. Mechanical movements are especially effective in this class of cases. We have successfully treated many obstinate cases in which the displacements were very serious.

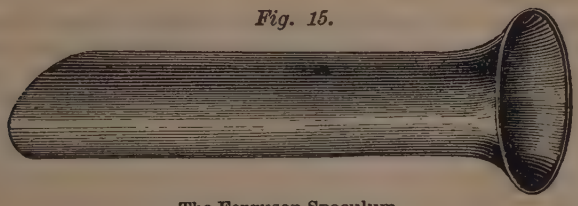
ULCERATION OF THE UTERUS.

Ulceration is the process by which ulcers, or sores, are produced. It is characterized by the secretion of pus or some fetid discharge, and is continued as a local disease through the operation of constitutional causes. Ulcers are generally symptoms of other morbid conditions.

Ulcers may form in the *mouth* or *neck* of the uterus, and, omitting cancerous ulcers and those of a syphilitic character, which are considered elsewhere, may be classified as *Granular* and *Follicular*.

Granular Ulcer. This variety of ulcerative degeneration is the most frequent, and may exist for some time without exciting any sus-

Fig. 15.



The Ferguson Speculum.

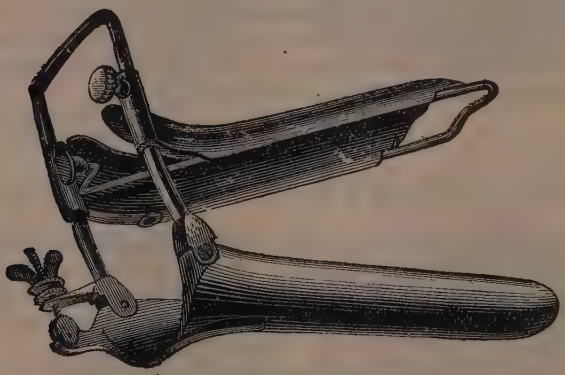
picion in the mind of the patient that she is afflicted with any such morbid condition. There is local inflammation, and the mouth of the uterus is uneven, rough, and granular. If an examination be made with the speculum, the mouth of the uterus is often found in the condition represented in Fig. 22, Colored Plate IV.

Figs 15 and 16 represent two different forms of specula. The one represented by Fig. 15 consists of a tube of glass coated with quicksilver and covered with India rubber, which is thoroughly varnished.

That represented by Fig. 16 is made of metal and plated. By using one of these instruments, the condition of the mouth of the womb can be distinctly seen.

Follicular Ulcer. When the mucous follicles of the neck of the uterus are inflamed they enlarge and become filled with a fluid having the color and consistency of honey, presenting the appearance illustrated by Fig. 25, Colored Plate IV. This secretion, because of the

Fig. 16.



An Expanding Uterine Speculum.

presence of the inflammation, is not discharged. The follicles, therefore, continue to enlarge until they burst, and we then see in their place the red, elevated, angry-looking eminence, which is called a *follicular ulcer.*

Symptoms. The severity of the symptoms depends upon the character of the ulceration. It may be simple or associated with purulent leucorrhea and hemorrhage. If ulceration be slight and local, few symptoms will be present; but if it be associated with uterine debility, congestion and inflammation of the mucous membrane of the uterus, the discharge will be profuse, and there will be fixed pain in the back and loins, a bearing-down sensation, and great difficulty in walking. The discharge is weakening, as it impoverishes the blood, and thus reduces the strength.

Causes. Ulceration may be induced by any thing that excites inflammation of the lining membrane of the mouth and neck of the uterus. The use of pessaries, excessive sexual indulgence, injuries occasioned by giving birth to children, congestions, enlargements and displacements, may all operate as causes.

Treatment. We cannot too strongly condemn the practice so popular at the present time with physicians generally, of indiscriminately burning all uterine ulcers with strong caustics, such as nitrate of

silver, chromate of potassium, and other similar escharotics, regardless of the condition of the general system. Ulcers of the womb must be healed in the same manner as those upon any other part of the body. It is an irrational practice to repeatedly cauterize them, expecting thereby to promote healing, while the system is vitiated and the vitality far below the standard of health. Enrich the blood, tone up the system, keep the ulcers cleansed by the frequent use of lotions, and they will generally heal. Caustics often aggravate the irritability and interfere with the healing processes of nature. Ladies should not unnecessarily submit to the exposure of their persons. If they perseveringly employ the treatment which we shall suggest, other local treatment will *very rarely* be found necessary. This modern warfare which physicians are waging upon the unoffending womb is a most irrational practice. Our grandmothers got along very well without exposing themselves to the humiliation and tortures of this new-born empiricism. We do not wish to be understood as undervaluing or denying the necessity, in rare cases, of examinations of the uterus, or as being unappreciative of the aid afforded in such investigations by the speculum, and the beneficial effects of local applications made directly to the womb through that instrument. What we affirm is, that such examinations and applications are, in the practice of most modern physicians, made unnecessarily frequent, resulting many times in lasting injury to the patient.

General Means. As has already been indicated, constitutional treatment should be principally relied upon to cure ulceration of the neck of the womb. Put the system in perfect order and the local ulceration cannot fail to heal. If you have a sore or ulcer upon the leg you very naturally reason that there is a fault in the system at large or in the blood. You do not apply caustics to the sore, but you go to work to restore the blood and system to a normal or healthy condition and as soon as this is accomplished the open and rebellious sore, or ulcer, heals of its own accord. All you have to do locally, to stimulate the ulcer to heal, is to keep it well cleansed by the use of Castile soap and warm water. Just so with ulceration of the womb. Thoroughly cleanse the vagina and neck of the womb once a day by the use of warm water and a little soap, applying this *thoroughly*, as directed on page 26, under the head of treatment for leucorrhea, and you have done all that is necessary, *locally*, in most cases of ulceration of the womb. But the injection of mild, warm soap-suds must be thoroughly administered. This can only be done as we have already advised on page 27. After the soap and water cleansing lotion has been thoroughly applied, a piece of soft sponge as large as a hen's egg, to which a bit of cord or strong thread is attached to facilitate removing it, may be thoroughly wet in pure glycerine and introduced into the vagina, pressed against the mouth of the womb, and allowed to remain there for twelve hours, when it should be gently removed by pulling

on the attached string. The cleansing lotion of soap and warm water should be used daily and followed by the glycerine application.

Dr. Sage's Catarrh Remedy liquid, prepared by dissolving the powder put up in a little bottle, in one pint of water, may be used every other day after the soap and warm water lotion, and alternated with the use of the glycerine application. That is, use the glycerine one day and one ounce or an ounce and a half of the Catarrh Remedy liquid the next day. But the liquid catarrh remedy as prepared for use must be injected while the patient is lying down with the hips well elevated, which position should be retained for five minutes after the liquid is injected—otherwise it will not reach all the diseased parts. We are fully aware that this thorough and *systematic* course of treatment is slightly troublesome in its application, but what system of treatment that can promise similar success is not?

This course of treatment must be *rigidly* adhered to for several weeks before we can expect a complete cure of the ulcers and the arrest of the consequent leucorrheal discharge. The lotion composed of sugar of lead two drachms, carbolic acid one drachm, glycerine four ounces, water four pints, mixed, is an excellent application to be injected as directed for Dr. Sage's Catarrh Remedy liquid, after the parts have been thoroughly cleansed by the use of the soap aud water.

The Sheet Anchor of Hope. Do not fail to bear in mind that no difference how good the lotions and other local applications may be, your *chief* reliance in all cases of ulceration of the womb, as well as in those of simple leucorrhea, must be upon *thorough constitutional* treatment. To this end Dr. Pierce's Golden Medical Discovery should be taken three times a day in doses of from one to one and a half teaspoonfuls one hour before each meal, and in the middle of the forenoon, in the middle of the afternoon, and just before retiring for the night, two teaspoonfuls of Dr. Pierce's Favorite Prescription should be taken. The use of these blood cleansing and invigorating tonic medicines should be kept up *persistently* for several weeks; for you must not expect a perfect cure too soon in a malady that has become chronic and seated. The disease does not become established hastily, but is slow in its inception and progress, and will only gradually and slowly yield to the best of treatment, which we believe we have already pointed out. Followed *earnestly*, *faithfully* and *persistently*, the use of the means which we have suggested will rarely, if ever, fail.

URINARY FISTULA.

A fistula, or false passage, is sometimes formed between the bladder and the vagina, between the bladder and the uterus, or between the urethra and the vagina. This passage allows the urine to escape through it into the vagina, and is a source of great annoyance and suffering. This affection is most commonly due to sloughing, caused by severe and long-continued pressure upon the parts during child-labor. It is also sometimes produced by the unskillful use of forceps and other instruments employed by midwives. Syphilitic and other ulcerations may so destroy the tissues as to form a urinary fistula.

Treatment. The treatment is purely surgical, and consists in paring the edges of the opening so as to make them raw, bringing them together and holding the parts thus by means of stitches until they heal. By the aid of a speculum, properly curved scissors, needles with long handles, fine silver wire, and a few other instruments and appliances, the skillful surgeon can close a urinary fistula with almost as much ease as he can close a wound on the surface of the body.

DISORDERS INCIDENT TO PREGNANCY.

While some women pass through the whole period of pregnancy without inconvenience, others suffer from various sympathetic disturbances, as "morning sickness," impaired appetite, constipation, diarrhea, headache, "heart-burn," fainting fits, difficult breathing, and sometimes convulsions. A strong nervous sympathy exists between the uterus and every part of the system and this sympathy is greatly intensified by pregnancy, causing the distressing symptoms above mentioned.

Treatment. By proper treatment, most of these evils can be obviated and the patient made comfortable. By the moderate use of such a nervine and uterine tonic as Dr. Pierce's Favorite Prescription, this nervous irritability may be controlled or subdued, and the disagreeable symptoms thus avoided.

While the female is pregnant. she should avoid all compression of the waist and abdomen. For this reason tight clothing, stays, or corsets must be discarded. She should also carefully regulate her diet, selecting that which is most nutritious and easily digested.

The nausea which occurs in the morning may generally be avoided by partaking of a little light food and a cup of tea or coffee before leaving the bed. If vomiting occurs, and the ejected matter be very acid, carbonate of magnesia, taken in tablespoonful doses, or some alkali with aromatics, or pulverized charcoal, which can be obtained at

any drug store, will afford relief. If constipation or diarrhea be experienced, small doses of Dr. Pierce's Pellets should be employed—one or two only at a time. Want of appetite, headache, or a tendency to convulsions, can be generally overcome by a persistent use of Dr. Pierce's Favorite Prescription, which should be taken in teaspoonful doses three or four times each day. Indeed, this valuable medicine not only relieves the distressing symptoms which frequently attend the pregnant state, but also prepares the system for the ordeal of parturition (delivery). One or two bottles of this nervine and tonic used previous to confinement, will, in many cases, save hours of terrible suffering, besides regulating the system, and thus insuring a speedy recovery. We have received the heartfelt thanks of hundreds of grateful mothers for the inestimable benefit thus conferred. The Favorite Prescription is perfectly safe and harmless to use *at all times* and under all circumstances in the doses above prescribed.

OVARIAN AND UTERINE TUMORS.

We have space only to give a brief outline of the characteristics and treatment of the most frequent classes of tumors which affect the ovaries and uterus.

Ovarian Tumors generally consist of one or more cysts or sacs, developed within the ovary, and filled with a fluid, or semi-fluid matter, which is formed in their interior. The cysts vary in size, in some instances being not larger than a pea, while in others they are capable of containing many quarts of fluid. In one case operated upon at the Invalids' Hotel and Surgical Institute, thirty-five pints of fluid were taken from three cysts.

The effect of ovarian tumors on the duration of life is shown by the statistics of Stafford Lee. Of 123 cases, nearly a third died within a year, more than one-half within two years from the first development of reliable symptoms, while only seventeen lived for nine years or upwards.

Fibroid Tumors of the uterus are composed of fibrous tissue, identical in structure with that of the uterine walls. They are met with in all sizes, from that of a small shot to that of a mass capable of filling the entire cavity of the abdomen. Cases are on record in which these tumors have attained the weight of seventy pounds.

The manner in which fibroid tumors terminate life is generally by prostration and debility produced by pressure on, and consequently, interference with, the function of some one or more of the organs essential to life; or by anæmia and debility, produced by the severe hemorrhages, which the intra-uterine or sub-mucous form not infrequently induces.

Polypi or Polypoid Tumors of the uterus are of three kinds, cystic, mucous and fibrous. They vary greatly in size, sometimes being as large as a tea-cup; and their point of attachment may be extensive or consist only of a small pedicle. The cystic and mucous varieties may spring from any portion of the mucous surface of the uterus, but they are more frequently met with growing from the mucous membrane lining the cervical canal, and pendent from the mouth of the womb, as represented in Fig. 21 and in Fig. 26, Colored Plate IV; while the fibrous varity generally grows from the sub-mucous tissue at or near the fundus, or upper portion, of the uterus.

The most prominent symptoms of polypoid growths are hemorrhage, which is almost invariably present, leucorrhea, pain, back-ache, and a sense of weight and dragging in the pelvis.

The best method of treatment, and, in fact, the only effectual one, is removal with the *écraseur*, polypus forceps, or galvano-cautery. The operation is usually attended with little or no pain.

For more than twenty-five years the physicians of the Invalids' Hotel and Surgical Institute, have been successfully treating tumors by means of electricity. More recently, the medical profession has quite generally adopted electrical applications in response to the advice of Apostoli, of Paris. The plan used however is crude. It does not compare in results with the successful and safe procedure that our surgeons have invented and pursued.

Electrical treatment will destroy the life of ovarian and fibroid tumors if applied early and after the improved methods so long used at our Institution. The destructive effect of electricity is modified by the introduction of certain electro-chemical applications so that it attacks and kills only the cells of the tumor.

The very large Ovarian Tumors, however, are not amenable to treatment by this process. The walls of their cysts become so thin and weak, while the pressure of the fluid from within is so great, that sudden and spontaneous rupture is liable to occur at any time and produce death. Removal by a cutting operation is necessary in such cases. Fortunately this procedure, as skillfully modified and perfected by experience, has, in the hands of our surgeons, proven free from the dangers and hazard common to Ovariotomy. This is due to skillful operation and to the fact that in our Institution the sanitary arrangements are as perfect as it is possible to make them. Everything is at hand in the way of instruments and appliances likely to be required, and the entire procedure is conducted upon the principles of perfect cleanliness and antisepsis, which obviate the risk of inflammation and blood-poisoning.

Furthermore, our nurses have had such fine training and such a vast experience in their attendance upon such cases, that wants are anticipated, and details, that would escape those not so well qualified, are

looked after so thoughtfully and vigilantly that the convalescence is rapid, as well as being in every way comfortable and safe. Under such conditions

Our surgeons have completed a long list of removals of Ovarian Tumors without a single death!

We are, therefore, *warranted* in stating that

The dangers due to the presence of these tumors are far greater than the slight risks of removal by the skillful methods employed by our surgeons.

Owing to a change made in the anæsthetic used, the painful and persistent vomiting that often follows abdominal operations is prevented. This does away with the greatest of all the dangers attendent upon the operation of Ovariotomy, and favors speedy recovery. Food, as administered in the form of artificially digested and concentrated nourishment, is readily retained. The strength is thus rapidly restored, and the healing process hastened.

It is generally supposed that the size of the opening made through the abdominal walls is large, proportionate to the size of these tumors. This is an error. Even in the largest cystic tumors where the development is immense, a small incision only, is made—simply sufficient to bring the walls of the tumor in view and admit, perhaps, two or three fingers. The tumor is then rapidly emptied of its contents by means of a powerful suction apparatus. Adhesions, if any exist, are then carefully removed, and hemorrhage therefrom prevented; after which the large sac of the tumor, which when collapsed is like a thin bag, is readily drawn out through the small opening in the abdomen and removed. The small pedicle or cord-like mass of vessels that supplies the tumor, are then carefully treated after a plan invented by, and peculiar to, ourselves, which effectually prevents any bleeding, and, at the same time, does not leave any irritating substance, such as burned and charred flesh, rubber, silk, or any other unabsorbable material, within the abdomen. The parts are left unbruised and without any poisonous germs in contact.

Our surgeons have met with phenomenal success in removing Ovarian Tumors, by the operation of Ovariotomy. Thus far, in a career extending over a long period of time and embracing the removal of a long list of these morbid growths, they have not had a single fatal case.

The following cases illustrate our method of treatment in a few of the many cases that have been under our care. Each case is typical of a class:

Case I. A married woman, aged 38. Had never given birth to a child. About four years before coming under our observation, she discovered a small bunch, as she expressed it, in the left ovarian region, which gradually increased in size until, when she consulted us, it caused considerable pain in the region of the liver from pressure, and interfered with respiration. Her general health was becoming much impaired. She stated that she had consulted a prominent gynecologist in this city, who had told her that the attachments of the tumor were so extensive that ovariotomy (removal with the knife) was out of the question, and that, therefore, he could only give her palliative treatment. This unfavorable prognosis only added mental anguish and despair to her physical suffering. On examination, we found a large multilocular cystic tumor, represented by Fig. 17, with very thick walls, extending from the left ovarian region obliquely upwards and to the right, so that it pressed more upon the short ribs on the right side than it did upon the left, but which filled the entire cavity of the abdomen. The attachments, as the doctor whom she had previously consulted had stated, were so extensive that its removal with the knife could not be thought of. We were not disposed, however, to give the case up as hopeless. We told her that we would do what we could for her, but as to what the result of our treatment would be, we could not definitely say. She placed her case in our hands, and we resorted to the above described treatment. She was treated two and three times per week for more than two months, at the end of which time, the tumor had decreased in size fully two-thirds. It has ever since remained stationary, and has given her no trouble or inconvenience whatever. It is now seven years since we treated her.

Fig. 17.

The shape and position of the Tumor are shown by the dotted line.

Case II. A young lady of 23; unmarried. About six months previous to consulting us, she had discovered a tumor of about the size of an egg, in the region of the left ovary, which had been gradually increasing in size. On examination, we found the morbid growth to be about the size of a quart bowl, and evidently composed of several cysts with thick walls. She experienced no pain, and but slight inconvenience from its presence, but she was in great mental distress. She was an only daughter, and her mother had died a few years previously from the shock and hemorrhage resulting from an operation for the removal of a large ovarian tumor, performed by the late lamented Dr. Peaslee, of New York. The same course was pursued in this case, and at the end of six weeks' treatment, the tumor was reduced to the size of an egg, and has remained so ever since, now more than three years.

Fig. 18.

U, Uterus. B, Bladder. R, Rectum. T, Tumor.

Case III. A woman, 37 years of age; married six years; no children. She had suffered for eight years from profuse menstruation and dysmenorrhea, with a membranous discharge, and, for several months before consulting us, she had experienced severe pain and a soreness in the pelvic organs. Her bowels were obstinately constipated, it being next to impossible for her to have an evacuation, and she possessed a pale and careworn countenance. Upon examination, we discovered a hard, incompressible tumor, represented in Fig. 18, attached to the posterior wall of the uterus, which caused anteversion of the womb, and which pressed upon the rectum so as to produce great obstruction. She was treated by means of electrolysis, with injections into the substance of the growth, for one month, at the end of which she returned home, with the tumor reduced from the

size of a pint bowl to the size of an egg, and her health greatly improved. After going home the tumor continued to grow less until, at the end of a few months, her home physicians could detect no trace of it, and she has remained well since, for more than five years.

Fig. 19.

U, Uterus. T, Tumor.

Case IV. A lady aged 36; married 12 years; no children. She complained of severe pain in the back and a frequent desire to urinate. Menstruation was profuse, and the bowels were constipated. On examination, we found an inter-mural fibroid tumor, represented in Figs. 19, developed in the anterior wall of the uterus, and pressing upon the bladder. The womb was enlarged, measuring three inches in depth, and was slightly anteflected. A month's treatment, with electrolysis and injections into the tumor, arrested the growth and diminished the size more than one-half, and caused the unpleasant symptoms to disappear.

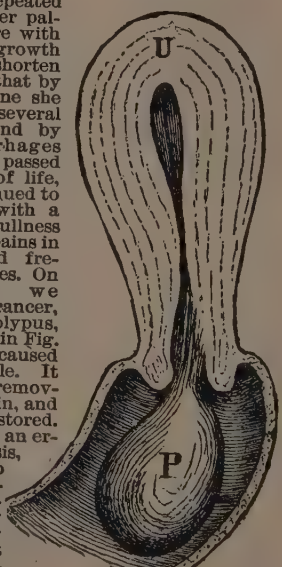
Case V. A married lady, 26 years of age; had borne no children, but had had several abortions, brought about intentionally. Six months before consulting us, a tumor, about the size of an egg, was discovered by her home physician. It grew steadily from the time of its discovery until, when we made an examination, it was found to be about the size of an ordinary teacup. It was developed in the posterior wall of the womb, as represented in Fig. 20. Three weeks' treatment reduced the tumor two thirds.

Case VI. A widow lady, aged 52. She was examined ten years ago by two of the most distinguished physicians of New Haven, Conn., who pronounced her sufferings due to cancer of the uterus. She was then suffering from repeated hemorrhages, and other symptoms. They gave her palliative treatment, and told her that to interfere with the morbid growth would only shorten her life, and that by leaving it alone she might live several years. By and by the hemorrhages ceased and she passed the change of life, but she continued to be troubled with a sensation of fullness in the pelvis, pains in the back, and frequent headaches. On examination we found not a cancer, but a large polypus, as represented in Fig. 21, which had caused all the trouble. It was quickly removed, without pain, and her health restored. Thus, through an error of diagnosis, she was made to suffer physically and mentally for ten, long years of her life, in constant dread of a horrible death.

Fig. 20.

U, Uterus. T, Tumor.

Fig. 21.



U, Uterus. P, Polypus.

TESTIMONIALS.

While we have a great cloud of witnesses testifying to the efficacy of our treatment of the diseases described in this little book, yet for lack of space we can here introduce only the following:

LARGE FIBRO-CYSTIC TUMOR.

Pronounced Incurable by many Eminent Surgeons. Health Restored and Tumor Removed without Cutting.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I cheerfully send you the following testimonial, and hope it may induce some sick person to seek relief where it is sure to be found.

We never truly appreciate health until it forsakes us.

For six years, I suffered all the tortures and fears attendent on the growth and development of a fibro-cystic tumor. I tried to have the tumor removed, but found it impossible. I had the very best medical advice the South affords, but every physician rendered the same verdict, 'incurable.' How that word, for months, rang in my ears —'INCURABLE.' It seemed stamped on my mind in letters of fire. What I suffered, both in mind and body, cannot be imagined. But for my unbounded faith in God's goodness and mercy, I doubt not, I would have given up and died. But I trusted in Him to direct me in the way to find relief. One hope stood out before me like a beacon light; and that was to find the means to go to Buffalo, N. Y., to Dr. Pierce's famous Invalids' Hotel and Surgical Institute. At last the opportunity came, and I bid my loved ones a sad farwell, (not one of them ever expected to see me again, alive) and with a sister to relieve me of every care on the journey, we started for the Institute.

MISS DUKE.

On arriving at the Invalids' Hotel, I was too sick and fatigued to treat with civility the sweet-faced, lady-like housekeeper who received me, or the gentle nurses who tried so patiently and kindly to minister to my wants.

I had read a good deal about the Invalids' Hotel, and expected to see wonderful things; but like Sheba's Queen, I could truthfully say. 'the half had never been told.' The many ways, means, and appliances, for the relief of poor sufferers surpassed a thousand fold anything I had ever imagined could come within the scope of human skill. The skilled physicians were not only able and attentive, but on meeting one, if it were every day, they always had a ready smile, a warm hand clasp, and an encouraging word, which alone, would make one feel better and at home. The trained nurses were attentive and kind.

Every department was cleanliness itself, and kept at such an even temperature, even to the halls, that during my four months' stay, I never had the slightest cold. Not only the comforts of life, but every luxury that the most exacting could demand, were fully supplied. I saw many poor sufferers, from various diseases, made well and happy, and I too, with the other happy ones, found relief, and that without the use of the knife or an anæsthetic of any kind. I would urge all poor chronic sufferers, it matters not what the trouble may be, to go to Dr. Pierce's Institute and be cured. If any one similarly afflicted cares to know more of my case, I will gladly answer any questions, if she will only write me, and enclose addressed and stamped envelope in which to reply. During my stay at the Invalids' Hotel I never lacked for anything that willing hands and warm hearts could supply, and I came away feeling that I was leaving a sweet, luxurious home and many warm friends, but with a new lease of life and perfect confidence in the ability of the physicians, for I know I could not possibly have lived two months longer, had I not found relief. To-day I am well, rosy and happy, with a heart full of lasting gratitude for the kind treatment and cure which I received at the Invalids' Hotel and Surgical Institute.

Yours truly,

MISS DELAINE DUKE,
Clanton, Chilton Co., Ala.

POLYPOID TUMOR OF UTERUS WEIGHING OVER FIVE POUNDS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

MISS BOLIN.

Gentlemen—After many trials my doctors here had given up all efforts to cure me. A tumor that had existed almost from my childhood was gradually killing me. From frequent hemorrhages, I had become as pale and bloodless as a ghost, and so weak as to be scarcely able to stand or walk. Frequently the loss of blood was so great as to cause such long fainting spells that my family thought me past mortal help. How I lived to get to your place is yet a matter of wonder.

We appreciated the fact that in the skill of your surgeon lay my last and only hope. The result proved his abilities. The restoration of my health, when it was so generally and for so long despaired of, was miraculous, and I cannot sufficiently express my gratitude and thanks.

The comfort that was given by the kindly attention of your nurses is one of the very agreeable memories of your home-like and pleasant institution. With much gratitude, I am, Respectfully yours,

MISS ANNIE BOLIN, Leon, Kan.

NOTE—The above case had been pronounced cancer of the womb by home physicians.

FIBROID TUMOR. CURED WITHOUT CUTTING.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I cheerfully give a testimonial of my treatment at your Institution, hoping it may induce others to avail themselves of your skill. In December, 1890, I went to you, after suffering five years with two fibroid tumors of the uterus. The tumors had grown rapidly for six months prior to my going to you for treatment, and had become quite painful. Under your treatment they entirely disappeared and my health was entirely restored. The treatment I received from your able corps of physicians and nurses was all that could be desired, and I would further state that your Hotel and Surgical Institute possess all the requirements for making invalids comfortable and happy. Yours truly,

VANIA E. DRENNEN,
Nelson, Portage Co., O.

MRS. DRENNEN.

OVARIAN TUMOR OF 62 POUNDS WEIGHT REMOVED.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

MRS. MATSON.

Gentlemen—I hereby certify that I had safely removed, without realizing any pain, a large cyst, or Multilocular Tumor (ovarian) weighing 62 pounds, by your surgeons. Then, with kind and watchful treatment, the care of good and faithful nurses, and by the blessing of an all-wise Providence, I was sitting up in twelve days from that time; had no inflammation or fever, kept gaining, and in five weeks returned home. I am feeling better than I have for two or three years. I cheerfully and truthfully recommend the Invalids' Hotel and Surgical Institute to all afflicted as I was—with tumors, or any chronic disease. The rooms are large and pleasant, the best of food is served, and everything possible is done by the physicians, nurses, and attendants connected with the Institution, to render the visits of the afflicted pleasant and desirable.

Accept the grateful thanks of my husband and myself for your good care and great kindness to me during my stay at your Hotel, and I wish you all great success. Very respectfully,

MRS. ELISHA MATSON,
Watts Flats, Chautauqua Co., N. Y.

UTERINE FIBROID TUMOR.

The following is from the Eminent Lady Physician and Popular Lecturer, Mrs. Jennie V. S. Wilcox, M. D.

JENNIE V. S. WILCOX, M. D.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—The *least* return one can render for an invaluable service, the saving of a life, is an acknowledgment of the same. Mine was a long-standing, stubborn, constitutional difficulty; chronic, and defying *all* previous treatment. Under the care of the doctors of the elegantly appointed Invalids' Hotel and Surgical Institute the disease yielded. Could I persuade some of my fashionable friends to spend a summer or winter at Dr. Pierce's rather than at "resorts" more or less unsuited to weary or sick people, there might rise up an improved generation. The electrical appliances at the Invalids' Hotel are probably the finest in the world. With them the administration of electricity for the absorption and removal of all abnormal growths, especially in my sex, is an *assured science*, and no experiment. I cordially commend all my fellow sufferers to the tender care of the Invalids' Hotel.

Yours very respectfully,
JENNIE V. S. WILCOX, M. D.
Saratoga Springs, N. Y.

OVARIAN ABSCESS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—It is with pleasure that I can testify to the skillful treatment received at the hands of your surgeon specialists. I had been given up to die, with an abdominal tumor and abscess. My case was not understood, before coming to you. Although operated upon twice unsuccessfully by others, my life was despaired of. I am happy to state that after a few weeks' stay in your Institution, with a skillful operation which owing to my extreme feebleness, was performed without any Chloroform or Ether (local anæsthesia only being employed), and which resulted in the removal of the tumor and abscess, I was perfectly cured, and have since enjoyed excellent health. I am now restored to my children and family, and have much to thank you for. The kindness and attention received from your physicians and nurses while in the hotel could not be better, and I wish to praise them all highly.

Very truly yours, MRS. ANNA KEACH,
66 Bissell Ave., Buffalo.

MRS. KEACH.

SUFFERED FOR 20 YEARS.

Ovarian Disease with Inflammation of Abdominal Organs and Great Nervous Prostration.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

MRS. GIBBONS.

Gentlemen—I most gladly express my appreciation of the treatment I received at the Invalids' Hotel and Surgical Institute at Buffalo. When I first applied to you for treatment I could sit up but a few minutes each day, and my physician had told me I never could be any better. I began to improve very soon after receiving and commencing to use your medicines. I continued to use them for some months, following the special instructions faithfully as I could, and steadily improved in health. My trouble was of such a nature that it was necessary for me to receive personal treatment, and I spent six weeks at your Institute. The kindness of physicians and attendants is everything that can be wished. It is now two years since I have had any of your medicines, and I have taken no others since, and my health is very good indeed. I can hardly realize that I am the same person that used to suffer so much for twenty years or more. Very respectfully,

MRS. M. GIBBONS, Franklin, Delaware Co., N. Y.

MRS. TANNER.

DISEASED OVARY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
663 Main St., Buffalo, N. Y.:

Gentlemen—In the Autumn of '88, I had an ovary removed at the Invalids' Hotel and Surgical Institute, Buffalo. The operation was performed with consummate skill. The Hotel is first-class in every respect, being at once a Christian Hospital and Home. The skill of man, as exercised there, seems all that God designed it to be.

I cheerfully add my testimonial as I consider the Institution first class in every respect.

Yours truly,
MRS. ELLEN F. TANNER,
Leavenworth, Kans.

FIBROID TUMOR OF UTERUS.

MRS. SLEEPER.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—There is no endorsement that the faculty of your Institute could ask that I would not willingly give. I fully realize that I owe not only my good health, but my life to the wonderful treatment received at the Invalids' Hotel and Surgical Institute, and would earnestly recommend any person needing the best medical or surgical attention to go for relief and cure to your Institution at Buffalo, N. Y. Words are inadequate to express the gratitude I owe you in so successfully treating my case.

Very truly yours, MRS. C. B. SLEEPER,
Brainerd, Minn.

OVARIAN TUMOR MADE UP OF SMALL CYSTS (MULTILOCULAR).

It grew to enormous size in but five months. The patient, a young unmarried woman, left home expecting to die. She had several physicians. None of them could give her any definite information as to the nature of the growth or other than unfavorable expectations as to its probable effects.

MRS. CRISSMAN.

It was successfully removed. The patient being able to be up and around in about two weeks with no unfavorable symptoms. Cure perfect.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

My Dear Doctors—Many months have passed since I have written you concerning my health. I have remained perfectly well, and, in fact, my health was never better than since the tumor was removed.

You will remember my case: The tumor had only grown about five months, but it was of immense size, and I had despaired of life, and my family thought that I would not return alive from your Institution. Your skillful operation and removal of the tumor, which weighed over thirty pounds, with the kind nursing and good attention given me afterwards, brought me through sound and well. To you I feel that I owe all thanks. My prayer is for the success of the World's Dispensary Medical Association. You saved my life after I had given up all hope. The kind care that all gave me was something that could not be paid for with money. It was like being at home. I send you my picture, which will give you some idea of the change for the better in my looks. I am now married and am very happy.

Very respectfully, MRS. P. S. CRISSMAN.
Montrose, Henry Co., Mo.

OVARIAN TUMOR.

MRS. ORTIZ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I am pleased to inform you that I have had no trouble since the removal of the tumor five years ago—that my general health is perfectly restored, and I grow stronger and stronger. And since that time I have two boys, healthy, and growing as strong as can be, and I feel very well satisfied with the care of the good and faithful nurses and physicians.

I cheerfully and truthfully recommend the Invalids' Hotel and Surgical Institute to all afflicted as I was with tumors, or any chronic disease. I send you my picture which will give you some idea of the change for the better in my looks.

Accept the grateful thanks of my husband and myself for your good care and great kindness to me during my stay at your hotel and our wishes for your best success. Respectfully,

MRS. J. NESTOR ORTIZ,
Ortiz, Conejos Co., Colo.

FIBROUS TUMOR.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

My Dear Doctors—My husband had to carry me into your place but in thirty days I walked out of the Invalids' Hotel sound and well.

The tumor that caused my sufferings had gradually developed during a period of several years. The trouble induced an inflammation of the bladder and I had to endure that torment in addition. There were times when I could not touch my feet to the floor. Walking was an agony that I could hardly bear. I faithfully tried good physicians and the various remedies and treatments that were recommended to me without any satisfactory relief. So I made up my mind to go to your institution. I am now very thankful. Every one I met with in your place seemed to help me to get well.

MRS. DEAN.

You have got not only the most skillful physicians and nurses but they are also the kindest and most agreeable that I have ever met. Your hotel is comfortable, home-like and perfectly clean.

The treatment was wonderfully successful in my case. The removal of the tumor was accomplished without pain. I can highly endorse local anæsthesia instead of using chloroform or ether. My recovery was rapid and I continue in good health and think of you all with thanks and good wishes. Very truly yours, MRS. ADELAIDE DEAN,
246 Garden Street, Lockport, N. Y.

FIBROID TUMOR OF THE UTERUS

Involving Both Body and Neck of the Womb.

MRS. JOHNSON.

The tumor was of many years' standing; had grown within a few months till it was about the size of a child's head.

From anxiety and worry, the patient had grown nervous and generally miserable. It was successfully removed by electrolysis, no knife nor other cutting instrument being employed. In ten days the patient was able to be about and to return home.

Yanceyville, N. C.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I have thought of you and prayed for your welfare ever since I left your Institution. I am perfectly well and enjoying as good health as ever I did. The treatment you so skillfully applied has completely restored my health, and I feel that I owe you a debt of gratitude that I can never repay. I am constantly sounding your praise among my friends, and know that I can never speak of you in too high terms. I once despaired of ever feeling well,—to-day, I am jolly and like another being. May you long be spared to minster to the afflicted.

Very respectfully, MRS. HANNAH JOHNSON.

NERVOUS PROSTRATION; DEBILITY; DYSPEPSIA; "FEMALE WEAKNESSES," CURED BY SPECIAL HOME-TREATMENT.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—For a number of years I suffered with a complication of female troubles; I tried various remedies from physicians but nothing seemed to do me any permanent good.

MRS. NICHOLSON.

About three years ago, I suffered an attack of nervous prostration, being the result of repeated miscarriages; this was a severe shock to my nervous system, resulting in a complication of other troubles among which was nervous dyspepsia. Words fail to express what I endured at this time. Only those who have passed through a similar experience can imagine the distressing symptoms accompanying this disease; I could neither eat nor sleep, was growing very thin in flesh and life seemed a burden to me.

This was my condition when I wrote to your Institution for help. I received a very encouraging letter and commenced treatment at once. I had not used their remedies a week before I began to feel better, and as I continued the treatment my health gradually improved. All the distressing symptoms have disappeared and my general health is restored. Accept my sincere thanks for the interest manifested in my case and the happy results obtained. I am now the mother of a fine baby girl, and I shall ever remember to whom I owe my present health and good fortune.

Yours truly,
MRS. J. D. NICHOLSON,
La Hoyt, Henry Co., Iowa.

BED FAST FROM WOMB DISEASE AND URINARY TROUBLES.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—When I began your treatment, I was unable to be up any at all, being troubled with womb and urinary diseases; but I can gladly say that had it not been for your medicine I could not have lived a great while longer.

I hereby give your medicine a high recommendation for the marvelous work it has wrought.

Yours respectfully,
MRS. PHEBE McCLAIN,
Earnest, Jefferson Co., Ala.

MRS. McCLAIN.

MRS. CLAWSON.

UTERINE AND RECTAL DISEASE.

Home Physicians Failed.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

To whom it may concern—I was greatly afflicted with Uterine and Rectal disease. My disease was of very long standing and had baffled the skill of our home physicians. I went to the Invalids' Hotel and Surgical Institute, and received treatment of their specialist. Under his skillful care and kind attention I soon regained my strength and felt that my former life and ambition were again restored to me. I cannot speak in too high praise of this famous Institution; the rooms are large and cheerful, the food of the very best, the nurses kind and attentive, and the staff of physicians and surgeons skillful and of large experience.

Yours respectfully,
MRS. CHAS. CLAWSON,
Middlesex, Yates Co., N. Y.

FALLING OF THE WOMB, LEUCORRHEA.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I was sick two years with "Falling of the Womb" and leucorrhœa or whites, previous to taking your medicines. I took six bottles of your "Favorite Prescription," and was entirely cured of both in six months; it is four years this month, since I was entirely well of both those diseases and have never had any signs of their appearance since, and I am satisfied the "Favorite Prescription" saved my life, for I could hardly walk around, when I commenced taking your medicine, and I think it is a God's blessing to me, and a great credit to you that I ever took your medicine, for had I not taken it, I think I would have been in the grave now, and I can highly recommend it to all who suffer from these two complaints.

MRS. COVELL.

I was pronounced incurable by the best doctors here in the West. I gave up all hopes and made up my mind that I was to be taken away from my husband and baby of two years old. I was sick all of the time—could not eat anything at all. In one week, after beginning the use of your medicine, my stomach was so much better that I could eat anything; I could see that I was gaining all over, and my husband then went and got me six bottles: I took three of them and my stomach did not bother me any more.

We sent to you and got the People's Common Sense Medical Adviser, and found my case described just as I was; we did what the book told us, in every way; in one month's time I could see I was much better than I had been; we still kept on just as the book told us, and in three months I stopped taking medicine, only three times a day, and continued for some time in that way, and to-day, I can proudly say I am a well woman. Yes, am well, strong and healthy. I am so glad and thankful to you, Doctor, for my good health, for well do I know you are the one that cured me.

When I began to take your medicine my face was poor and eyes looked dead. I could not enjoy myself any where, I was tired and sick all the time. I could hardly do my housework, but now I do that and tend a big garden, help my husband and take in sewing. Yours respectfully,

MRS. MARY F. COVELL, Scotland, Bon Homme Co., So. Dak.

SEVERE NERVOUS PROSTRATION.

"Out of Darkness Into Light."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—About eighteen years ago, after the birth of one of my children I was left in a weak, rundown condition; it seemed to me that my nerves were unstrung very bad: I did not suffer much pain, but I think I suffered everything any one could suffer with nervousness; my life was a misery to me. I doctored with seven different doctors and got no relief; then I took almost all kinds of patent medicines and got no relief from them, but got worse all the time, when I chanced to get one of your little pamphlets.

MRS. AUSTIN.

I thought I would write to you, and waited as I thought to hear that there was no help for me; when my answer came and you said you could cure me great was my joy. I had taken your medicine about a month when I began to improve and in a few months was entirely cured.

My recovery was like coming out of the dark into the light, so great was the change. I will advise all sufferers to go to you for relief—I don't think they will be disappointed. When I commenced taking your medicine I weighed 94 pounds, now I weigh 125 pounds.

I do not know how to thank you for all the good your remedies did me. With heart-felt thanks I am,

Sincerely yours, MRS. AMANDA C. AUSTIN,
Burden, Cowley Co., Kansas.

P. S.—I have a lady friend who is taking Dr. Pierce's Favorite Prescription now, and last summer every one thought she was going with consumption; four of her father's family had died with it in five years: she has taken one bottle of "Favorite Prescription," and now she is better in health than she has been in three years. Her address is Mrs. Laura Paugh, Burden, Cowley Co., Kas. A. C. A.

MONTHS OF SUFFERING AND TORTURE.

"Left to Die a Hopeless Wreck."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—A grateful heart and an appreciation of your medical skill prompts me to make a statement of my case.

At the birth of my last baby (a boy weighing 14 pounds at his birth), I contracted womb disease. And for three years previous to treatment, I had been a great sufferer from prolapsus. Owing to a more serious injury than prolapsus, received at child-birth, my physicians told me that "I could never hope for recovery."

MRS. MOODY.

After delivery, I kept my bed for seven weeks. At the expiration of that time I tried to walk. I found that I could not even stand straight; there seemed to be a "tight cord" or "drawing" from my left side extending down into my groin, accompanied by great soreness.

After repeated attempts, with my body inclined to that side and yielding to the drawing, I finally succeeded in walking—a violent trembling all the while in the parts affected.

Three months after the birth of my baby, I tried to take hold of my household duties—then my troubles increased, and with them came a series of "Doctors' bills."

I consulted two of the best physicians, besides trying all the medicines I heard tell of, that were recommended for such diseases; but failed in obtaining a cure from any of them; my relief was only temporary. My condition was growing worse each day; the womb was so low and the "bearing down" weight so great that I could scarcely stand on my feet at all. I was irritable and nervous with a dull headache and constipation; hands and feet cold and clammy, except the palms and soles; a burning on top of my head. At this stage of my disease my bladder was badly affected—the "neck" becoming enlarged and the water collecting there caused a protrusion to over half the size of a tea cup, leaving it so dry and harsh that it was with the greatest difficulty I could walk at all; a sudden jar, sneeze, or even the slightest pressure, would force the water out, leaving me in a spasm of pain. At this stage (22 months after confinement) menstruation returned for the first time since the birth of my baby. I had already suffered as much as I thought it possible to bear, and live, but my sufferings were even greater after this; my womb was ulcerated and inflamed; nervousness increased to violent shaking, over which I had no control; circulation so feeble that the extremities were scarcely supplied with blood, they were constantly cold and clammy. My sleep broken and disturbed, life was fast becoming a burden to me. For months, however, I endured this torture; I had

abondoned work altogether; I could be up but a few moments at a time and could not walk across the floor without excruciating pain. There was no sleep, no rest, and after a week and even more, would pass during which I would never close my eyes in sleep, even when morphine, opium and chloral, were administered. My body seemed a dead weight, while my mind was alive to all my sufferings. There seemed to be a burning pressure about my head all the while.

I would have shaking spells frequently, leaving me perfectly exhausted, my heart the while beating so rapidly, I could not count the pulsations; it seemed to cease altogether after that, with a sinking, fainting feeling over me, making it difficult to breath at all. During my menstrual periods I suffered a "thousand deaths." My appetite was gone, mind and sight impaired, strength and flesh all gone. I was a pitiable object to look at, divested of all that made life endurable for me. I had baffled the skill of two physicians, and was left, after three years of agony, to die, a "hopeless wreck," worse than death.

Such was my condition when I applied to you for treatment. After using medicines only six days I began to improve; my nerves were steadier; circulation better, hands and feet warm. Nine days after taking your medicines they restored the function again. I will confess I expected to suffer death again—I did not think the medicines had had time to effect a change within so short a time. Imagine my joy and surprise upon waking next morning to find it had "stolen like a thief upon me in the night," I knew not when. I spent the day in grateful tears—how could I help it? It passed off as quietly as it came, leaving my head clear of that *dreadful, burning pressure!* My nerves were steady; indeed, my improvement was so remarkable, that it seemed almost a delusion. My appetite had returned, and I was hungry for the first time in over a year. I slept well—awoke refreshed and feeling stronger. After two weeks, I was able to walk around the house and yard without support; a day or two after that I walked a hundred yards, visiting and spent the day. In three weeks time I went home (I had gone to my mother's before treatment, as I and many others thought, to die).

At the end of one month there was no symptom, nor sign, of the old disease. I was able to be up all day, resting a short time at noon. To be sure of permanent results I continued treatment for one month longer, and have never had a return of the disease nor any symptom of it since. Before the end of the second month, I was able to be about the house, helping the children with the cooking, and milking. My weight increased fourteen pounds in five months after treatment. I have taken no medicine since except one bottle of Dr. Pierce's Favorite Prescription, four years ago. At this time (nine years after treatment), I find my health still good, having no aches nor pains, a splendid appetite, sleep well, no headache, no backache and no womb trouble. I am able to do my house work and everything; can do a day's work with less fatigue than I have for years before treatment. I feel sure that I would have been in the grave years ago if it had not been for your medicines. I advise all other ladies who are troubled with the same disease to apply to you for treatment.

Be assured, that whenever I have it in my power I shall recommend your invaluable remedies. I thank you a thousand times for what you have done for me, and for the kindness which you have extended to me throughout.

Wishing you long life and continued success, I am, with much gratitude,

Very truly yours, MRS. JENNIE S. MOODY,
Isney, Choctaw Co., Ala.

COMPLICATED CASE OF WOMB DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

MRS. KNAPPENBERGER.

Gentlemen—When I went to the Invalids' Hotel for treatment I was in a very critical condition. I could scarcely walk for inward troubles—but I cannot stop to speak of one disease, for I had such a complication of diseases. Now I am doing my own housework and in the past four weeks I have entertained forty-seven people, and I think I certainly am doing well. It is with the greatest pleasure that I recommend all who are afflicted to go to the Invalids' Hotel and Surgical Institute. The Surgeons are honorable, trustworthy gentlemen, who will do all they promise; and, being men of large experience, they know just what course of treatment to pursue from first to last, so that an invalid can rest assured that no experimenting will be done.

For seventeen years I was an invalid and never had better health than at the present day, for which I am grateful to your Institute.

Yours respectfully,
MRS. D. T. KNAPPENBERGER,
Jeannette, Westmoreland Co., Pa.

MRS. REEL AND DAUGHTER.

UTERINE DISEASE.

Gentlemen—For eight years I was a sufferer from female derangements. I have been permanently cured by your specialist, and with only thirty days' treatment. I am happy to say there is no return of the old trouble, and all my friends were so surprised to see me so well after being an invalid so long. I shall never regret the day I went to the Invalids' Hotel. You ought to see me now—I am so healthy, I shall never forget your kind treatment of me, and the nurses too were so kind and attentive—I cannot say too much in their praise.

Respectfully,
MRS. J. W. REEL,
Idaho City, Boise Co., Idaho.

PAINFUL MENSTRUATION AND CONSTIPATION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—In April, 1891 I came to your Invalids' Hotel for examination and treatment. I was at that time suffering from profuse and painful menstruation, complicated with obstinate constipation, from which I had suffered many years. I cannot speak too highly of your treatment of my case, as it was both prompt and thorough and resulted in a radical cure of the above named diseases, and I desire to recommend all who are thus afflicted to apply to your eminent staff of physicians for relief, as they cure when others fail. My advice to all who are afflicted is, if you wish to get well, go where they make such diseases a specialty. I hope that many others may be as thoroughly cured as I have been.

Yours truly,
MISS ELLA DORAN,
Tiffin, Seneca Co., O.

MISS DORAN.

COMPLICATION OF DISEASES CURED BY SPECIAL HOME-TREATMENT.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

MRS. SHEEN.

Gentlemen—I suffered from female complaint; my kidneys, stomach and nerves were also affected. My physician told me I had Bright's Disease of the Kidneys. I suffered a great deal in various ways, at times. I felt as if life were a burden to me; about that time Dr. Pierce's Common Sense Medical Adviser came into my possession. I read it carefully, and I thought if Dr. Pierce can not cure me perhaps he can give me some relief. I wrote to him, describing my symptoms and feelings as well as I could, and asked him if he could cure me. He said he thought he could, but it would take a long time for my disease was deep seated. He sent me a box of medicines enough to last one month, especially prepared for my case.

I continued taking his medicines for about thirteen months, and at the end of that time I felt like a new woman; that has been almost seven years now and my health is still good.

The benefits derived from Dr. Pierce's Medicines are lasting, and I advise all women suffering as I did, to give his medicines a fair trial. Gratefully yours,
MRS. MARY SHEEN, Council Bluffs, Iowa.

PARALYSIS AND UTERINE DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

MRS. MANN.

Gentlemen—I will say that your Institute is all that you claim for it, and more to. The Doctors are courteous gentlemen and the best Physicians I have ever met with in my life. My treatment while at the Institute did me more good in one month than all the doctors everywhere else combined. My ailment was Paralysis and Female Weakness. Your treatment did me good while at the Institute, and I have also been greatly benefited by the home-treatment I have received from you since. I am much better than I was; I am able to do considerable work now. When I came to you I could not do anything.

I herewith send you my heartfelt thanks for all you have done for me, and should I need more treatment I will write you as before. I would advise all people who have chronic diseases to go to the Invalids' Hotel and Surgical Institute for help, for it is a grand place and prices are reasonable. We use your Family Medicines—your "Pellets" and "Golden Medical Discovery"—and find they are all you claim for them.

Again I thank you and remain, your friend,

MRS. S. B. MANN,
Sutton, Clay Co., Neb.

BARRENNESS CURED.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—With pleasure I can recommend your medicines and treatment. At the time of my treatment I was barren, and had no signs of ever having any children until after the time of your treatment.

We now have two little boys, and we are happy. This picture shows my husband, myself and our eldest child.

I pray for your continued success, and thank you for your skill.

Very truly yours,

MRS. A. H. BAIN,
Cozad, Dawson Co., Neb.

A. H. BAIN, WIFE AND CHILD.

INDIGESTION, CONSTIPATION, AND UTERINE DISEASE.

MISS JOSLYN.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Some months ago I consulted your specialist concerning my health, which had at that time become very much impaired from the effects of uterine disease, indigestion and chronic constipation. I was also troubled with frequent attacks of nervous headache which rendered me very miserable.

A line of treatment was outlined by your specialist, which I followed closely, and I immediately began to improve under the use of the medicine advised. The benefits were so marked that within two or three months I was able to discontinue the use of the medicine, and have since that time been enjoying good health. I attribute my cure to the use of your medicines, and I heartily thank you for the benefits received, as well as for the kind attention given me by your specialist.

Respectfully yours,

IDA M. JOSLYN, Groton, Conn.

NERVOUS AI[illegible] GENERAL PROSTRATION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

MISS MORRISON.

Gentlemen—It is with pleasure that I add my testimony to your list, hoping it may contribute to your success and induce others to avail themselves of the benefit of your invaluable medicines. In June, 1890, I took typhoid fever of malignant type; for two months I hovered between life and death; at length the fever left me in a prostrated condition. Then I was taken with a severe pain in my back and general nervous prostration; could not move myself in bed nor bear to be moved by the most careful nurses without experiencing excruciating pain. I had the best medical attention in the community, but they failed to give relief. My friends wrote to Dr. Pierce, stating my condition and requesting treatment for me. He treated me for two months; by that time I had so much improved that I did not think it worth while to continue the treatment longer, and my health has been such that I have not had occasion to lie in bed two days together since. I feel under lasting obligations to Dr. Pierce, and thank God for blessing the world with so able a physician. Very respectfully,

MISS MAGNOLIA MORRISON,
Abernethy, Iredell Co. N. C.

GENERAL DECLINE.

"Female Weakness," Heart Disease and Rheumatism.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

MRS. ASHMAN.

Gentlemen—For years I had been a great sufferer from general declining health—female weakness, heart disease and rheumatism—and despaired of ever getting well. Physicians afforded me only temporary relief. It was not until I commenced doctoring with Dr. R. V. Pierce that I experienced any decided benefit. My health has gradually improved until now I feel like a new being. Language fails to express my gratitude for this cure, which is due wholly to your life-saving and life-giving medicines.

Respectfully,
MRS. CALEB ASHMAN,
Du Bois, Clearfield Co., Pa.

NERVOUS AND GENERAL DEBILITY.

MRS. LINN.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—My case was a complication of diseases—a general break-down, lasting three years. I placed myself under the treatment of four different physicians. At last, giving up all hope of recovery at home, I was making arrangements to go to a Sanitarium in Michigan for special treatment. One of your small books with blank enclosed was handed to me; I filled out the blank, and thought I would try rather than leave home and little ones,—"Happy decision;" two months' special treatment and I was well and happy, and to-day, I have the very best of health.

Yours respectfully,
MRS. LOMA LINN,
Ladoga, Montgomery Co., Ind.

MRS. MCCLURE.

FEMALE WEAKNESS; LEUCORRHEA.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—I was troubled with "female weakness" and leucorrhea for three years before I applied to you. I had tried several doctors but they did me no good, and I grew worse all the time. Finally I wrote to you for special treatment, and thanks to Dr. Pierce for being the means of my recovery. I am forty-five years old and do all my house-work.

I remain,

MRS. MARTIN J. McCLURE,
Thomasville, Oregon Co., Mo.

"FEMALE WEAKNESS."

Dr. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—Having been treated by one of your associate physicians, at the Invalids' Hotel and Surgical Institute, and greatly benefited, I do not hesitate to recommend you and your Faculty to all who may need the services of honest and skillful physicians.

Yours truly,

MRS. D. S. MOSES,
Fremont, Ohio.

MRS. MOSES.

MRS. FITCH.

"FEMALE WEAKNESS."

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I have been taking Dr. Pierce's Favorite Prescription—three bottles of it and am getting well fast; I can do my own work, which I have not done for almost two years; I do my own washing and all of my house work; I have gained about six pounds taking your remedy. You cannot know how glad I am that I tried your "Favorite Prescription."

Yours truly,

MRS. ANNIE B. FITCH,
Johnstown, Cambria Co., Pa.

WOMB DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I enjoy good health thanks to Dr. Pierce's Favorite Prescription and "Golden Medical Discovery." I was under doctors' care for two years with womb disease, and gradually wasting in strength all the time. I was so weak that I could sit up in bed only a few moments, for two years. I commenced taking Dr. Pierce's Favorite Prescription and his "Golden Medical Discovery," and by the time I had taken one-half dozen bottles I was up and going wherever I pleased, and have had good health and been very strong ever since—that was two years and a half ago. Yours truly,

MRS. ANNA ULRICH,
Elm Creek, Buffalo Co., Neb.

MRS. ULRICH.

A MOST WONDERFUL CURE.

Terrible Ulceration and Falling of Womb. Dropsy and other Complications.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I am a farmer's wife. My husband hired hands to work on his farm —I had them to cook for—to wait upon, and my family to care for. I worked very hard till my health and strength gave way. Six years ago the "turn-of-life" began in the worst form with other disease which I knew not; I had a severe misery in my back, pain in my head; the monthly flow became so excessive—came on too often; lasted eleven days. When the flow would stop then there would be yellow discharge of thick mattery appearance. I had bearing down in the lower portion of the womb—great pain all through my body: the pain in my womb was more like "labor-pain" than anything I can compare it to; I had palpitation of the heart, light chills, hay fever; had pain in my stomach like colic. My womb was very low down; the mouth was a large hard knot—was so sore I was compelled to have a soft seat to sit on; severe pains in my thighs; pain down the sides of the abdomen; pain in my breast, pain between my shoulders; my bowels costive; my nervous system prostrated; my digestion impaired; I had a desire to urinate all the time, could not pass only a few drops at a time; on standing a few hours, it would form a crust on the chamber—red, grainy substance; I was bloated all over my body. My feet and legs were swelled tight, and I was in so much pain day and night I could not sleep; I could not eat any food only a little sweet milk and a little corn-bread; I lived in this way for four years; I could not walk across the room. I was treated by four of the best doctors in the land; the first three gave me no relief—the fourth built up my health to some extent; none of them could cure me—none of the four could regulate the menstrual flow, they could not cure those offensive discharges. I was given up to die by all four of them; my family and friends expected every day I would die.

MRS. SMITH.

I got one of your Memorandum Books; I read it carefully, and I was hoping all this time for some relief—I hoped all the time for relief. My husband decided to write to you—ask your advice, believing you could give me relief; though I felt ashamed to tell a gentleman, a doctor I never saw, those things concerning my afflictions; but I was suffering terribly. I hoped for relief and I found it. I am happy to tell you I am well. I was spared to be cured by your good advice and good medicine and to spread your fame.

When I received the book you sent me and a letter telling me what to take, and what it would do for me, I was very feeble; I had just got up from one of those bad spells—so weak that I could not sit up for more than an hour at a time. My husband went and got the medicine and a syringe. I began its use, as you advised, and took the medicine as you directed; I have taken your medicine seven months; the first month my improvement was slow; I began to have strength; my pain began to banish; my appetite began to come; I commenced to sleep sound and the bloating began to go down; the pain in my head was gone; palpitation of the heart, also the misery in my back disappeared; the pain in my womb began to banish; the first time the monthly flow appeared, it was controlled—it was regulated—it went so light with me that I could go all the time without a cane. I have not had one spell to confine me to bed in seven months; I have done all the cooking for my family all the year; the pain in my stomach disappeared; the yellow discharge also—the bearing down banished. I have no pain, no aches, no bad feelings. I feel better to day, than I have in ten years. I now enjoy life, enjoy my family, enjoy my friends. I enjoy the pleasure of telling my friends who cured me, and what medicine it was that cured me; he should have the honor. It is Dr. Pierce!

I was at death's door when I began to take his medicine, and followed his advice. It was his "Favorite Prescription," "Golden Medical Discovery" and the "Pleasant Pellets" that cured me. I also used the lotion, or wash advised, with a syringe.

Now, I wish you to accept my best wishes, and hearty thanks for what you have done for me.

Last winter I gave my sick friends the pamphlets which were around the bottles of medicine; some of them are going to take it; it gives great satisfaction here; I will take no other myself; it will come the nearest to raising the dead of any medicine I ever saw in my life; it saved my life, when four doctors gave me up to die. My God bless you in your work, as He has done in my case.

Yours truly,
MRS. MARY SMITH,
Oakfuskee, Cleburne Co., Ala.

SEVERE FLOWING.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

MRS. CLARK.

Gentlemen—I suffered terribly with leucorrhea, my monthlies would nearly always send me to bed; I would lose from two to four quarts of blood. I had womb trouble pretty bad and my bladder would trouble me nearly all the time, by continually wanting to urinate, with smarting, burning pains. My husband got me a bottle of Dr. Pierce's Favorite Prescription. I took nineteen bottles and now feel very well indeed.

Your friend, MRS. LULU CLARK,
No. 208 West 3d Street, Sioux City, Ia.

Mr. Homer Clark, the husband, writes: "My wife was troubled with leucorrhea and female weakness, and ulcers of the womb. She has been doctoring with every doctor of any good reputation, and has spent lots of money in hospitals, but to no purpose. She continued to get worse. She was greatly prejudiced against patent medicines, but as a last resort we tried a bottle of Dr. Pierce's Favorite Prescription. We had seen some of your advertisements, and Mr. Cummings, a west-side druggist, advised us to try a bottle. We tried it with the following results: The first bottle did her so much good that we bought another, and have continued until she has been cured."

INFLAMMATION AND "FALLING OF WOMB."

MRS. CAMFIELD.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I deem it my duty to express my deep, heart-felt gratitude to you for having been the means, under Providence, of restoring me to health, for I have been by spells unable to walk. My troubles were of the womb — inflammatory and bearing down sensations and the doctors all said they could not cure me.

Twelve bottles of Dr. Pierce's wonderful Favorite Prescription has cured me. Yours,

MRS. FRANK CAMFIELD,
East Dickinson, Franklin Co., N. Y.

GENERAL DECLINE.

MRS. DUNCAN.

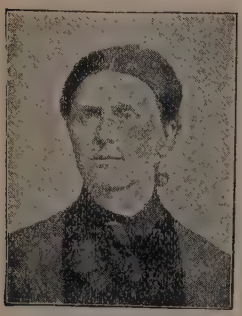
WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I believe I owe my life to Doctor Pierce's remedies. Six or seven years ago, my health began to gradually fail; some of my friends as well as myself thought I was going into consumption. I began taking Dr. Pierce's Favorite Prescription, "Golden Medical Discovery" and his "Pellets," and was greatly benefited; took half a dozen bottles at that time, did not take any more for several years, when I began to go down again. I was married November, 1889. The next September had a miscarriage. The summer following my health was very bad; I then got one dozen bottles and took as directed. My health was much improved and am now the proud mother of a healthy boy 22 months old. My health is now much better than I thought it ever would be.

Yours truly,
MRS. ALICE V. DUNCAN,
Rees Tannery, Mineral Co., W. Va.

ERYSIPELAS AND WOMB DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:



MRS. WHITE.

Gentlemen—I am forty-eight years old, and have had four children. Three years ago the doctor said I had womb trouble, which was accompanied with backache and a tired and miserable feeling all over; left side hurt me very much, and could not lie on that side, and the doctor said it came from affection of the spleen; had a great deal of headache; was costive, and suffered terribly from erysipelas; it nearly set me crazy, so great was the burning and itching; sometimes experienced severe burning in the stomach. I took twelve bottles of your medicines, six bottles of Dr. Pierce's Golden Medical Discovery and the same amount of his "Favorite Prescription." Was using them for about six months, and can say that they did their work well. I have ever since felt like another person, and do not think I can say enough in their praise. I have no more weakness, and all evidence of erysipelas has disappeared.

Respectfully yours,
MRS. SARAH E. WHITE,
Kennon, Belmont Co., O.

FALLING OF WOMB.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Having suffered for years with what my doctor called "Falling of the Womb" I was advised to try Dr. Pierce's Favorite Prescription. The effect has been simply marvelous; a single bottle relieved me of all pain and enabled me to sleep at night, which I had not been able to do for a long time. For three months I have not had any return of the complaint above named. I feel as well as I ever did. I shall heartily recommend "Favorite Prescription" to all afflicted as I was.

Yours truly,
MRS. SAMUEL GIVENS,
Leesburg, Harrison Co., Ky.

MRS. GIVENS.

DYSPEPSIA, UTERINE DISEASE.

MRS. MARTIN.

MRS. J. A. MARTIN, of *Cleburne, Texas*, had not had good health since the birth of her child, eight years before; had a headache with burning and throbbing sensations; and a hurting in her stomach; there was a dead aching and gnawing or drawing of the stomach as she described it; sharp pain in the stomach extending to her right breast and shoulder. Weighed in health 125 pounds, but was reduced to 95 pounds; was weak; could scarcely walk at all, was sick at stomach a great deal; when her monthly sickness came on had much pain and the sickness of the stomach remained until menstruation stopped. She writes:

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—"I have taken about six bottles of your 'Golden Medical Discovery' and 'Favorite Prescription,' and am glad to say that I feel better and stouter than I have felt in a long time. I can work all day now and not be tired at night. My head don't trouble me now. When I commenced the use of the medicine I weighed 89 pounds, and to-day I weigh 98 pounds. I feel better than I have for months."

H. M. DETELS AND WIFE.

COUGH AND NIGHT SWEATS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—In regard to your medicines I will say that they are always in the house. I shall never forget those nights when I was down with pneumonia. Had it not been for Dr. Pierce's Golden Medical Discovery I would not be a well man to-day. One bottle stopped the cough and night sweats.

My wife was troubled with leucorrhea so bad that we did not know what to do until Dr. Pierce's Favorite Prescription was brought into the house and gave her rest.

Yours truly,

H. M. DETELS,
Traver, Tulare Co., Cal.

"CHANGE OF LIFE."

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—It was four years ago that I applied to you for treatment. My family physician did me no good. When I began your treatment I was nearly bed-fast; my life was a misery to me. I have taken eight bottles of your medicine and it has cured me. If I could tell the whole world of your medicine I would do it. If any woman undergoing the "change of life" will take Dr. Pierce's Golden Medical Discovery and his "Favorite Prescription," according to directions, they will cure her. When I began taking them I could scarcely do anything and now I can do all my housework and pick two hundred pounds of cotton a day. Yours truly,

MRS. M. E. E. PRICHARD,
Thornton, Limestone Co., Texas.

MRS. PRICHARD.

COMPLICATION OF DISEASES.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

MRS. ROBERTSON,

Gentlemen—For twenty years, I suffered with womb disease and most of the time I was in constant pain which rendered life a great burden. I cannot express what I suffered. I had eight doctors and all the medicine I had from them failed—the one after the other.

I was nervous, cold hands, feet, palpitation, headache, backache, constipation, leucorrhœa and no appetite, with bearing down pains. I got so weak I could not walk around. I had to keep my bed, thinking I would never get any better.

One day my husband got one of your little books and read it to me. He said there was nothing doing me any good. I said I would try Dr. Pierce's Favorite Prescription. I did try it. After the first few weeks my appetite was better; I was able to sit up in bed. I wrote to the World's Dispensary Medical Association, at Buffalo, N. Y., and described my case; they sent me a book on woman's diseases. I read carefully and followed the directions as near as I could, and took the medicine for two years. With the blessing of God and your medicines I am entirely cured. That was three years ago.

Yours most respectfully,

MRS. ALEX. ROBERTSON,
Half Rock, Mercer Co., Mo.

VAGINITIS—IRREGULAR MENSTRUATION.

MRS. PARKER.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I was married in April, 1892. Soon after I discovered that I was a sufferer from a very painful condition of the vagina and from irregular menstruation. In fact the latter was true from its first appearance. I consulted our family physician but he gave me no relief. At last I applied to Dr. Pierce for aid: he advised me to take his "Favorite Prescription," which I did faithfully. I bought seven bottles of it and one of the "Golden Medical Discovery." After I had taken two bottles of the "Favorite Prescription," my menses began to be more regular and I was also relieved of the other diseases. Before I began taking the medicine, I felt great lassitude and weakness at times, but I now feel quite strong.

I can confidently recommend Dr. Pierce's Favorite Prescription to any one suffering as I did.

Yours truly,
MRS. MARIA L. PARKER,
Aten, Cedar Co., Neb.

CATARRH IN HEAD AND WOMB DISEASE.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—I have used Dr. Sage's Catarrh Remedy and taken Doctor Pierce's Favorite Prescription, and I have found great relief from both. I have felt better ever since and am still improving. They are wonderful medicines. I have recommended them to several and I am in great favor of Dr. Pierce's medicines.

Sincerely yours,
MISS BARBARA LEWIS,
Syracuse,
Morgan County, Mo.

MISS LEWIS.

LEUCORRHEA, "FEMALE WEAKNESS."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I have used your "Favorite Prescription" and must acknowledge to you and the public also, the benefits I received from the use of a half dozen bottles of it. My condition was pitiful before I was persuaded to use it. I had leucorrhea, no appetite, cold feet, weakness, fainting spells, melancholy. I felt that I would soon leave my children motherless. I fell off in flesh to a pitiful looking object. My friends around said I must be consumptive. My family doctor gave me nearly all kinds of blood medicine for over a year—all kinds of tonics to build up flesh, but nothing seemed to benefit me.

Last September—one year ago, I began using Dr. Pierce's Favorite Prescription, being convinced that my disease was female weakness. I had only used it three days when I began to feel better and, after using three bottles accompanied by the "Discovery," I felt as though I was well, and continued its use until I had used half a dozen bottles for fear of a relapse.

MRS. JONES.

Was a living picture of surprise to my friends. They had all expected my death. I have given birth two months ago to a baby and no return of my old disease. I hope that all females, dragging about with pain and weakness, dyspepsia, melancholy feelings, restlessness at night, and not feeling like getting up in the morning, may commence the use of Dr. Pierce's Favorite Prescription, and be well again.

Yours respectfully,
MRS. ANNIE H. JONES,
No. 316 Effingham Street,
Portsmouth, Norfolk Co., Va.

FEMALE WEAKNESS, ASTHMA, SEVERE COUGH.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

MRS. MONROE.

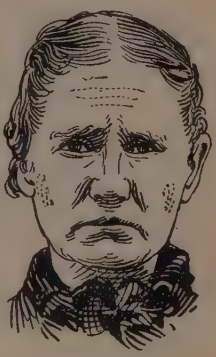
Gentlemen—I had been ailing for a year or more, being troubled with "Female Weakness" and leucorrhœa, when I took a severe cold which settled on my lungs, and I had a very severe attack of asthma, which was so bad that for three weeks I could not lie down in bed at all. I had a terrible cough, in fact, every one thought I had consumption and nothing gave me relief until I took your medicines, using two bottles of "Favorite Prescription" and two of "Golden Medical Discovery." They cured me and I have had no return of the dreadful cough since, and that has been two years now and I have had good health ever since.

I am in possession of a copy of the Common Sense Medical Adviser, which I would not part with for anything.

Respectfully yours,
MRS. S. A. MONROE,
315 S. Regester Street,
Baltimore, Md.

LEUCORRHEA.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:



MRS. CHAPEL.

Gentlemen—I have been troubled with falling of the womb for years, and was hardly able to drag around. The doctors said I had ovarian tumors and leucorrhea; the treatment they gave me only produced temporary relief. I grew worse with leucorrhea all the time until I chanced to see your remedies.

I consulted you; you pronounced my trouble leucorrhea, and advised Dr. Pierce's Favorite Prescription. You sent me some prescriptions to have filled here, which I used with great success. I am entirely free from my old trouble—leucorrhea. I only used three bottles of "Favorite Prescription."

I could not thank you enough for the cure. When I commenced with your remedies I weighed one hundred and nine pounds; I now weigh one hundred and forty-six.

Respectfully,
MRS. MATTIE L. CHAPEL,
Dawson, Hopkins County, Ky.

"FEMALE WEAKNESS," THE RESULT OF GRIP.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

MRS. SPEER.

Gentlemen—I was taken sick with the grip on the first day of January, 1892. I employed a doctor, until in May I was some better, but could not do any work. The Grip left me with a weakness, my head felt very badly and I would get so discouraged and despondent. It affected my back, hips, and legs, and made me miserable indeed. My stomach was very bad; it soured and burned after eating. My heart, also, gave me much distress by beating so fast and loud at times.

In May I commenced using Dr. Pierce's Favorite Prescription; took seven bottles of that, and then, by your advice, began taking Dr. Pierce's Golden Medical Discovery. I took five bottles of that, making twelve bottles in all.

My niece lives with me, and she, also, took the "Favorite Prescription," which did her a great deal of good.

Yours respectfully,
MRS. E. J. SPEER,
North Barton,
Tioga Co., N. Y.

"FEMALE WEAKNESS" PERMANENTLY CURED.

MRS. RAMSEY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—My trouble was "female weakness" and womb disease. I suffered greatly for twelve years. Four years ago my health became so poor I was confined to my bed most of the time from May until September. I was treated by our family physician but received no benefit; I then consulted Dr. R. V. Pierce, of Buffalo. Through his good advice I began using his "Favorite Prescription," having taken in all eight bottles of "Prescription" and two of his "Golden Medical Discovery." I am at present enjoying better health than I have for twelve years. As it is now three years since I quit using those medicines and I have no return of my old trouble. I consider myself permanently cured.

Yours truly,

MRS. MOLLIE L. RAMSEY,
Liberal, Barton County, Mo.

TORPID LIVER, SUPPRESSED MENSTRUATION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I had suffered so much for years from "Liver Complaint" that I did not care whether I got well or not, but my husband urged me to take your "Golden Medical Discovery." I had not had my courses for six months; after I had taken your medicine about two months, I was well.

When one of my daughters with a baby two weeks old was in so much pain that she could not rest day or night, I went to her as quickly as I could, and commenced giving her your "Favorite Prescription." The next morning the pains were all gone. She said, "oh, mother, I would have died if you had not come. I do feel so good." Your medicine makes people feel like they wanted to live. There is a woman at Verdi who had several children who died with consumption of the bowels and *chronic diarrhea*. She had another one who was going the same way. The doctor said it was bound to die. I went there and gave it five drops of Dr. Pierce's Extract of Smart-Weed, and increased the dose every time its bowels moved, until I got to a half teaspoonful. The next morning the child was almost well. That woman says I saved her baby's life.

MRS. FITZGERALD.

I could write a week and not tell half the good your medicines have done through my hands. Two weeks ago, a young man at my house was taken with *cholera morbus*. He thought he was surely going to die, but as quickly as I could get some hot water, I put hot applications on his stomach and bowels, and gave him a few doses of your Extract of Smart-Weed. He got well immediately.

MRS. MARY ISABELL FITZGERALD,
Reno, Washoe Co., Nev.

MRS. CLARK.

SUPPRESSED MENSTRUATION AND NERVOUS DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Dear Sirs—My health is quite good, so I have been able to do all my own work, and I know Dr. Pierce's Favorite Prescription is what helped me.

We never think of doing without Dr. Pierce's Pleasant Pellets in the house. I give them to my children when they need anything of the kind, and they never fail to do good. Gratefully yours,

MRS. WARREN CLARK,
Mount Pleasant, Isabella Co., Mich.

MRS. WILSON.

DISEASE OF WOMB.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I cannot say too much for Dr. Pierce's Favorite Prescription. I feel it my duty to say to all women who are suffering from any disease of the womb that it is the best medicine on earth for them to use; I cannot praise it too highly for the good it did me. If any one doubts this, give them my name and address.

Respectfully,

MRS. CORA S. WILSON,
Carlisle, Sullivan Co., Ind.

"HER FAVORITE."

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Dr. Pierce's Favorite Prescription is my favorite medicine. I recommend it highly to my friends. Mrs. James Grant of Fort Fairfield, Maine, one year ago was a very sick woman. I told her what your medicine had done for me and others whom I know, and I think it raised her from the death-bed; her husband thinks it a miracle that she got better. My health at present is good.

Respectfully yours,

MRS. GEORGE A. COLLINES,
Maysville Centre, Aroostook Co., Maine.

MRS. COLLINES.

WORDS OF PRAISE. UTERINE DISEASE.

DR. PIERCE, Buffalo, N. Y.:

Dear Sir—Years ago you sent a box of medicine to my sister, Mrs. Cynthia P. Freer in New Albion, N. Y., which did so much for her that after I was married I used them in my own family. Two different times I have used the "Discovery" when physicians told me they could only patch me up—I was so bad and getting steadily worse. I sat down and wrote to you; even after the letter was written I felt so worthless it seemed foolish to try, so kept my letter for some time thinking it better not to trouble you with it, but finally mailed it little thinking your advice and the "Discovery" could so speedily restore me to my usual health.

MRS. PIERCE.

A near neighbor used it for a cough occasioned by a sudden cold, and less than one bottle stopped the cough. We use the "Pellets" for malaria and the numberless ills and epidemics that go the rounds, always with happy results; it saves us physicians' bills and much suffering. We consult your Common Sense Medical Adviser as our family physician. It saves much anxiety and fruitless journeyings after a physician, perhaps to find them gone or unwilling to breast the storm or heat, to say nothing of the delay and danger of being too late.

Both my sister and myself have used your "Favorite Prescription" and know it to be what it is represented by you to be. I can conscientiously recommend those of your remedies we have used. I am willing to answer letters of inquiry, if stamps are enclosed for reply.

Respectfully,

MRS. ABBIE J. PIERCE,
Box 22, Waterbury, Dixon Co., Nebraska.

MRS. HOOVER.

"FEMALE WEAKNESS."

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—I had been a great sufferer from "female weakness;" I tried three doctors; they did me no good; I thought I was an invalid forever. But I heard of Dr. Pierce's Golden Medical Discovery and his "Favorite Prescription," and then I wrote to him and he told me just how to take them. I commenced last Christmas and took eight bottles. I now feel entirely well. I could stand on my feet only a short time, and now I do all my work for my family of five. My little girl had a very bad cough for a long time. She took your "Golden Medical Discovery" and is now well and happy. Yours respectfully,

MRS. WILLIAM HOOVER,
Bellville, Richland Co., Ohio.

STERILITY CURED.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I will always recommend Dr. Pierce's Favorite Prescription, it cured me when all other medicines failed. For ten years I suffered untold misery. I commenced taking your medicines and found relief before finishing one bottle. After using your medicine eleven months, I made my husband the present of a twelve pound boy.

I think it is the best medicine in the world.

Yours truly,

MRS. CAROLINE KING,
New Boston, Scioto Co., O.

MRS. KING.

MRS. DEMBY.

"WOMB TROUBLE."

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—For three years I suffered from what my doctor called womb trouble. I cannot find language to describe the tortures I suffered.

Sixteen weeks ago I began to use your medicine and now feel better and stronger than I have felt for years, in fact my health is thoroughly restored and there are no signs of any return of my former trouble. I owe it all to your wonderful "Favorite Prescription" which I shall always praise wherever I go.

Yours truly,

MRS. MAMIE DEMBY,
1503 Saratoga St., Baltimore, Md.

UTERINE DEBILITY CURED

After Sixteen Years of Suffering.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I must tell you that I have enjoyed better health since I began treatment with Dr. Pierce's Favorite Prescription, for Leucorrhea and Uterine Debility than I have for sixteen years. I am cured of my trouble and now weigh one hundred and sixty-six pounds, whereas my weight for many years stood at one hundred and twenty-five pounds. With pleasure, I remain,

Yours truly,

HARRIET HARDS,
Montpelier, Idaho.

MRS. HARDS.

MRS. ROSS.

FEMALE WEAKNESS, NERVOUSNESS AND DYSPEPSIA.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I suffered everything from bearing-down sensations, headaches, cold feet and hands, leucorrhea, backache, and general weakness. Was exceedingly nervous and very gloomy and despondent; had poor appetite, constipation, distress in stomach after eating, and could not sleep well. Began using "Favorite Prescription" alternately with "Golden Medical Discovery" in April, and by July was cured. Respectfully,

MRS. S. F. ROSS,
No. 200 Market Street,
Amesbury, Mass.

THREATENED MISCARRIAGE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I cannot say enough in praise of Dr. Pierce's Favorite Prescription, as it has done me a world of good and undoubtedly saved my baby's life, as I came near losing him twice before the proper time.

Respectfully,

MRS. C. P. MILLER,
No. 1628 Frederick Ave.,
St. Joseph, Mo.

MRS. MILLER.

MRS. KEMPSON.

WAS A GREAT SUFFERER.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—When I began to take your medicine I could not do any work to speak of. I was in such misery that many times, as I lay down for the night, have I prayed that I might never see the rising of another sun. It was almost death to me to stand on my feet.

When I began using your medicines, I weighed 103 pounds. I have taken in all, ten bottles of your Dr. Pierce's Favorite Prescription, six of "Golden Medical Discovery," and some of your "Extract of Smart-Weed." To-day I am well, and weigh 148½ pounds, and am doing the work for my family of nine.

Respectfully, MRS. FRED KEMPSON,
Cambria, Hillsdale Co., Mich.

TROUBLES INCIDENT TO "CHANGE OF LIFE."

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I can testify to the efficacy of Dr. Pierce's medicines. I have been using his "Golden Medical Discovery," "Favorite Prescription," and "Pellets" for several years, for troubles incident to the "turn of life." I have found them to be of very great benefit to me, and cheerfully recommend them to all similarly afflicted.

Respectfully,

Mrs. M. C. CARPENTER,
Berlin, Sangamon Co., Ill.

MRS. CARPENTER.

DYSPEPSIA AND "FEMALE WEAKNESS."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

MRS. HUTCHINSON.

Gentlemen—Words fail to describe my sufferings before I took your "Golden Medical Discovery" and "Favorite Prescription." I could not walk across the room without great suffering, but now I am able to do my own work, thanks to your wonderful medicines, I am a well woman. I suffered all the time with a weight in the bottom of my stomach, and the most severe bearing-down pains, low down, across me, with every step I attempted to take. I also suffered intense pain in my back and right hip. At times I could not turn myself in bed. My complexion was yellow, my eyes bloodshot, and my whole system was a complete wreck. I suffered greatly from headaches, and the thought of food would sicken me. Now I can eat anything, and at anytime. My friends are all surprised at the great change in me. Every one thought I would not live through the month of August. Two of my neighbors are using your medicines, and say they feel like new beings.

Truly yours,
MRS. ANNIE HUTCHINSON,
Cambridge, Dorchester Co, Md.

WOMB DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.

Gentlemen—I am now entirely cured by the use of your medicines. I think, and so do my relations, that if it had not been for your medicines that I could never have lived. I had many physicians before but got no relief until I began to take Dr. Pierce's Favorite Prescription and his "Golden Medical Discovery." I then commenced to get better right away. I kept getting better and am now entirely cured. They are the best remedies for women and all their ailments.

I suffered from severe pain in back and region of womb, frequent headache, was pale and sallow, with dark circles around eyes, was very nervous, cross, fretful, had spells of crying, and was out of sorts generally.

Respectfully,
MRS. SUSAN CUMMINGS,
Shawano, Shawano Co., Wis.

MRS. CUMMINGS.

"FEMALE WEAKNESS." PERIODICAL PAINS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

MISS TANNER.

Gentlemen—I was sick for four years. For two years I could do no work. I had five different physicians, who pronounced my case a poor or impoverished condition of the blood, and uterine trouble. I suffered a great deal with pain in both sides, and much tenderness on pressing over the womb. I bloated at times in my bowels and limbs. Was troubled with leucorrhea. I could not sleep, and was troubled with palpitation of the heart. Suffered a great deal of pain in my head, temples, forehead and eyes. I had a troublesome cough, and raised a great deal, and at times experienced a good deal of pain in my chest and lungs. My voice at times was very weak. I suffered excruciating monthly, periodical pains. Since taking seven bottles of your "Favorite Prescription" some time ago, I have enjoyed better health than I have for more than four years previously; in fact, for several months past I have been able to work at sewing. I have gained in weight thirty-nine pounds since taking your medicines: the soreness and pain, of which I formerly complained so much, have disappeared. Yours truly,

MISS MARY TANNER,
North Lawrence, St. Lawrence Co., N. Y.

FALLING OF WOMB.

MRS. LEWIS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I cannot tell you how my wife has improved since she began the use of your "Favorite Prescription," coupled with "Golden Medical Discovery." She has no more trouble with falling of the womb, and she never feels any pain unless she stands too long. She has no bearing-down pains since she began the use of your remedies. She does nearly all of her own house-work now, but before she commenced taking your remedies, she could hardly walk across the room.

I do not know how to thank you for all the good your remedies have done her, for the best doctors had given her case up as incurable.

Yours truly,

ALFRED LEWIS,
Fairport Harbor, Lake Co., Ohio.

UTERINE DEBILITY.

Permanently Cured, After Taking Five Bottles of "Prescription."

Dep't of Photography, U. S. Artillery School,
Fortress Monroe, Va.

WORLD'S DISPENSARY MEDICAL ASSOCIATION:

Gentlemen—My wife cannot speak too highly of your Dr. Pierce's Favorite Prescription, it having completely cured her of a serious womb trouble of long standing. She took five bottles altogether, and she has borne a large, healthy child since. There has been no return of the complaint.

She only wishes every poor, suffering woman should know of the inestimable value your "Favorite Prescription" would be to them, and thanks you, gentlemen, from the bottom of her heart, for the benefit she has received. Yours very truly,

EDWARD F. F. SARGENT.

MRS. SARGENT.

"FEMALE WEAKNESS."

DR. R. V. PIERCE, Buffalo, N. Y.:

MRS. DAVIS.

Dear Sir—I am enjoying good health, and I deem it my duty to send you my testimonial. I can conscientiously recommend your medicines to any suffering woman. I think they are indeed the best medicines for "female complaint" that has ever been invented. Had it not been for them I surely would have died.

I tried numbers of remedies from doctors but without getting any relief; I then took Dr. Pierce's Golden Medical Discovery and his "Favorite Prescription" and I feel confident that I am permanently cured.

I told my mother to try it; she has taken four bottles—two of the "Golden Medical Discovery" and two of the "Prescription." She says it is the best medicine she has ever tried for her case; she is in better health than she has been for fifteen years. Mrs. Shelton also used it, says it has done her more good than all the doctors' medicine ever did; she has "female complaint."

Yours respectfully,

MRS. NORA DAVIS,
Noble, Ozark County, Missouri.

UTERINE DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

MRS. COVENTRY.

Gentlemen—I had "Female Weakness" very bad—in bed most of the time, dragging down pains through my back and hips; no appetite; no energy. The family physician was treating me for liver complaint. I did not get any better under that treatment so I thought I would try Dr. Pierce's Favorite Prescription and "Golden Medical Discovery." I felt better before I used one bottle of each. I continued their use until I took six bottles of each. In three months' time I felt so well I did not think it necessary to take any more. In child-birth it does what Dr. Pierce recommends it to do. I would like to recommend Dr. Pierce's Extract of Smart-weed to those who have never tried it; it surely is the best thing for cholera morbus, or pain in the stomach I ever used; it works like a charm. I try never to be without it.

Yours respectfully,

MRS. IDA COVENTRY,
Huntsville, Logan Co., O.

LEUCORRHEA, IRREGULAR MENSTRUATION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—After years of suffering I have been cured by your wonderful medicine. When I commenced your medicines I could neither eat nor sleep; my hands and feet were constantly cold. I had leucorrhea for twenty years and my monthly periods were never regular, occuring about once in three weeks. I used three bottles of Dr. Pierce's Prescription and two of his "Golden Medical Discovery," and am a well, hearty woman to-day—thanks to your kind advice and excellent medicine. Our family doctor said to-day, "I can't beat Dr. Pierce's Favorite Prescription; it is a wonderful medicine."

Yours respectfully,

MRS. MARY KENISON,
Catlin, Otero County,
Colorado.

MRS. KENISON.

"CHANGE OF LIFE," ORGANIC HEART DISEASE, WOMB TROUBLE.

Dr. R. V. PIERCE, Buffalo, N. Y.: *Dear Sir*—I feel that I would be doing an injustice to you and to suffering humanity if I did not write you a statement of my case.

I have been a constant sufferer all my life, and for the past five years have been under the care of many good physicians, who, I must say, have only given me relief for a short time. I cannot describe the constant pain and torment to which I was subjected every moment of my life, and I was so reduced in flesh and strength that I could scarcely walk across the floor and had little hope of ever being any better.

I was induced, by the advice of a friend, to take your "Favorite Prescription," as she had been cured after taking several bottles of it. My physicians said I was suffering from the effects of "change of life," organic heart disease and womb trouble.

I sent for your Common Sense Medical Adviser and then wrote to you. You advised me to take six bottles more of the "Favorite Prescription," which I did, and in a reasonable length of time after taking it, I felt very grateful for the happy relief I obtained. I do not suffer near so much with my heart as I did before taking the "Favorite Prescription." I had not been able to do any kind of work at all for two years, and I am now able to attend to my household duties without suffering any pain.

I have two daughters—17 and 19 years old, that have been in very bad health for twelve months or more. I gave them each several bottles of the "Favorite Prescription," and it entirely cured them.

I would send you my photo., as you request, but have none, and there is no

place nearer than Natchez, Miss., thirty miles distant, where I could have one taken.

I now thank you most kindly for the happy relief and cure which myself and daughters received from taking your "Favorite Prescription."

With many thanks and wishing you success, I am,

Yours respectfully,

Mrs N. C. Reily.

Bougere, Concordia Parish, La.

MRS. MCALLISTER.

ULCERATION OF THE WOMB.

Gentlemen—This is to let you know what your medicine is doing here. I was in bad health; age was working upon me, and had ulceration of the womb; I could not get about; I took Dr. Pierce's Favorite Prescription and it cured me; I felt ten years younger. I have not had any return of my trouble. I am the mother of thirteen children and I am fifty-three years old, have never seen a better woman's friend than your medicine. I have recommended it to my friends here, and it has never failed in any case, so let me thank you for the good it did me.

Yours,

MRS. M. A. MCALLISTER,
Lim Rock, Jackson County, Ala.

REV. W. J. WALKER'S PRAYER.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I wish to inform you of the benefit my wife has received from the use of your medicines. I must say that your "Favorite Prescription" is the best female regulator on earth; my wife has been cured by the timely use of it. I have been using the "Golden Medical Discovery" and "Pleasant Pellets," and I am fully satisfied they are all you claim them to be; so I wish you abundant success, and hope that the Almighty God will continue His blessings toward you in your noble work.

Respectfully,

REV. W. J. WALKER,
Vancleave, Jackson Co., Miss.

REV. W. J. WALKER.

MRS. JACOBS.

TERRIBLE PAIN AND FAINTING SPELLS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—When I commenced taking your medicine I was very sickly. I had frequent spells of fainting, terrible pain in my head, and life was a burden to me. I was attended by one of the best physicians in our town, but with no good results. At last a neighbor advised me to try Dr. Pierce's Favorite Prescription, which I did, and after taking one bottle I felt greatly benefited. I would advise all ladies similarly afflicted to try "Favorite Prescription."

Yours truly,

MRS. SAMUEL A. JACOBS,
Mechanicsburgh,
Cumberland County,
Pennsylvania.

"WAS THE PICTURE OF DEATH."

Physicians Failed.

MISS LOYD.

DR. R. V. PIERCE: *Dear Sir*—My daughter has been sick all her life, and the older she grew, the worse she was until she was the picture of death: the physicians could not do her any good.

I heard of your "Favorite Prescription," for women, and I gave her three bottles, and now she is a perfectly healthy girl.

Have recommended it to a great many sufferers from "female complaints," and it has cured them.

I think it is the greatest medicine in the world, and I have never found anything to compare with it. Yours truly,

MRS. M. J. LOYD.
Wesson, Copiah Co., Miss.

UTERINE DISEASE OF YEARS' STANDING.

Suffered for Twelve Years.

Oreide, (formerly Enterprise,)
Taylor County, W. Va.

Gentlemen—A heart overflowing with gratitude prompts me to write you. Twelve long weary years I suffered greatly from Uterine derangement and at last was given up by my physician to die, besides spending almost all we had. After five months' treatment with your Doctor Pierce's Favorite Prescription, I now enjoy most excellent health. I would, today, have been in my grave, and my little children motherless, had it not been for you and your medicine. I will recommend your medicine as long as I live. If any one doubts this, give my name and address.

Yours sincerely,

MRS. MALVINA WILSON.

MRS. WILSON AND CHILD.

ST. VITUS'S DANCE.

MASTER IRA D. PONSLER.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—My boy had been in bad health for a long time. We called our home doctor, but he got no better. Finally he had the St. Vitus's Dance, and our doctor did not know what to do. So I wrote to you and did as you told me; I got two bottles of your "Favorite Prescription," and one bottle and a half did the work all right. At that time, eighteen months ago, his weight was 85 pounds, now it is 135 to 140; he is fourteen years old.

Yours truly,

JEREMIAH PONSLER,
Zenas, Jennings County, Ind.

MRS. SHARRARD AND SON.

"FALLING OF WOMB."

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I take great pleasure in recommending Doctor Pierce's Favorite Prescription for "Falling of the Womb." I was troubled with bearing down pains and pains in my back whenever I would be on my feet any length of time. I was recommended to try Dr. Pierce's Favorite Prescription, which I did with happy results. I feel like a new person after taking three bottles of it.

Respectfully,

MRS. ALLEN SHARRARD,
Hartney, Selkirk Co., Man.

UTERINE DISEASE, "CHANGE OF LIFE."

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I am happy to say that my health remains good since my sickness four years ago. I took several bottles of "Pellets," one of "Golden Medical Discovery," and two of "Favorite Prescription" and gained right along after I had been taking them. I am at a loss to give my sickness a name, as my physician called it a "Complication of Diseases," resulting from change of life and over-work. I take great pleasure in recommending your remedies to suffering women. May you live many years to administer to the suffering and afflicted is the wish of your sincere friend.

Yours, etc.,
MRS. J. T. FLETCHER,
Pony, Madison Co., Montana.

MRS. FLETCHER.

MAKES CHILDBIRTH EASY.

MRS. GUTHRIE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I never can thank you enough for what your treatment has done for me; I am stronger now than I have been for six years. When I began your treatment I was not able to do anything. I could not stand on my feet long enough to wash my dishes without suffering almost death; now I do all my housework, washing, cooking, sewing and everything for my family of eight.

Your "Favorite Prescription" is the best medicine to take before confinement that can be found; or at least it proved so with me. I never suffered as little with any of my children as I did with my last, and she is the healthiest we have. I recommend your medicines to all of my neighbors, and especially "Favorite Prescription" to all women who are suffering. Have induced several to try it, and it has proved good for them.

Very respectfully,
MRS. DORA A. GUTHRIE,
Oakley, Overton Co., Tenn.

MRS. BAKER.

SHORTENS LABOR.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I began taking your "Favorite Prescription" the first month of pregnancy, and have continued taking it since confinement. I did not experience the nausea or any of the ailments due to pregnancy, after I began taking your "Prescription." I was only in labor a short time, and the physician said I got along unusually well.

We think it saved me a great deal of suffering. I was troubled a great deal with leucorrhea also, and it has done a world of good for me.

Yours truly, MRS. W. C. BAKER,
South Bend, Pacific Co., Wash.

"FEMALE WEAKNESS."

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—My wife was hardly able to walk about the house when she began using Dr. Pierce's Favorite Prescription, and by the time she had used one bottle of it and one bottle of his "Pellets," she could walk a half a mile with more ease than she could walk across the house before she began to take it; she says she thinks it is just what all weakly women ought to have.

Yours truly,
GEORGE W. SHEPHERD,
Sigman, Putnam Co., W. Va.

MRS. SHEPHERD.

MRS. INMAN.

"FEMALE WEAKNESS."

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I began taking "Favorite Prescription" about a year ago. For years I have suffered with falling and ulceration of the womb, but to-day, I am enjoying perfect health.

I took four bottles of the "Prescription" and two of the "Golden Medical Discovery." Every lady suffering from female weakness should try the "Prescription" and "Golden Medical Discovery."

Yours respectfully,
MRS. F. L. INMAN,
Manton, Wexford Co., Mich.

"FEMALE WEAKNESS."

"Could Scarcely Drag Around."

DR. R. V. PIERCE: *Dear Sir*—Several years ago I took your "Favorite Prescription." At that time, I was so miserable (and had been so for many years) that I could scarcely drag myself around. Concluded to try your medicine. I took half a dozen bottles and I have not had a return of my old trouble.

Hoping others will be benefited as I have been, I remain, Sincerely,
MRS. C. H. BAKER,
Freytown, Lackawanna Co., Pa.

MRS. BAKER.

OBSTINATE CHRONIC DISEASE CURED.

Ministers Endorse It.

MRS. STIMPSON.

DR. R. V. PIERCE: *Dear Sir*—For some six or seven years my wife had been an invalid. Becoming convinced that it was her only hope, we bought six bottles of Dr. Pierce's Favorite Prescription and "Golden Medical Discovery." To the surprise of the community and the joy of myself and family, in one week my wife commenced to improve, and long before she had taken the last bottle she was able to do her own work (she had not been able to do it before for seven years), and when she had taken the last of the medicine she was soundly cured.

Yours truly,

REV. T. H. STIMPSON,
Donnoha, Forsyth Co., N. C.

NERVOUS DYSPEPSIA; UTERINE AND SPINAL WEAKNESS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I had nervous dyspepsia for twenty years, followed by uterine and spinal weakness with irritation of the same. In the Spring of 1890 I became so exhausted that I was compelled to keep to my bed with symptoms of paralysis in the lower limbs, and many other distressing symptoms. I accidentally obtained one of Dr. Pierce's Medical Advisers from a friend, and finding my ailments so well described therein, I wrote to Dr. Pierce for his advice, which he sent by return mail. For my recovery he requested me to use his "Golden Medical Discovery," his "Favorite Prescription," and his "Pleasant Pellets." He also gave me some directions for every-day living. These means accomplished my complete cure. I am thankful that we can have such reliable medicines brought into our homes without great expense.

Yours truly,

MRS. AMERICA NAY,
Volga, Jefferson Co., Ind.

MRS. NAY.

THICK NECK (GOITRE),

Nervous Debility and Weakness Cured.

MISS HOUGHTON.

MISS ELLA A. HOUGHTON, of *Theresa, Jefferson Co., N. Y.*, was cured of Thick Neck, Nervous Prostration, Weakness and a complication of ailments by Dr. Pierce's "Discovery" and "Favorite Prescription." She says: "My health is now as good as it was before I was sick. The swelling (goitre) has all gone from my neck. I don't have any bad feelings. My gratitude for the benefit I have received from your treatment has induced me to recommend you to all whom I know to be sick." "I have known of two or three middle aged ladies residing near here, who have been cured by your 'Favorite Prescription.'"

SUPPRESSED MENSTRUATION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—It is almost two years ago that my little girl was taken with a spasm which frightened me so that my menses became suppressed. I suffered severely with pressure on the brain so that I often thought I should go insane. I also had

severe pain in the ovaries, and bearing down pain. I consulted a physician, who treated me for awhile till I began to feel worse, and consulted another physician whom I knew had treated several women for like ailments. He gave me medicine which did me no more good than that prescribed by the first physician.

Finally, after an examination, the doctor said that he should have to operate on me in order to have my health restored.

As my husband and I had heard and read so much about Dr. Pierce's medicines we decided to try them. We had Dr Pierce's Common Sense Medical Adviser. I took three or four bottles of Dr, Pierce's Favorite Prescription and one bottle of "Golden Medical Discovery" and one vial of "Pellets." After using these I felt perfectly cured As I am always troubled more or less with biliousness, I keep your little "Pellets" on hand and find relief by using them. One of them taken after meals acts splendidly for indigestion.

Respectfully, MRS. B. H. KAMFERBECK,
Holland, Ottawa County, Michigan.

THICK NECK (GOITRE).

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

Gentlemen—I am willing and pleased to have you publish anything I have written in regard to the cure of my little son of Goitre (that a surgeon of N. Adams said could never be cured).

MASTER SUMNER.

I do hope that by so doing some little one may escape the misery my little one suffered for over a year until I began the use of the "Golden Medical Discovery." I followed your directions found in the little book around the bottles. Before the first bottle was gone, he could eat and sleep without that coughing and choking that, before the use of the "Discovery," was impossible.

The tumor began to lessen in size, and after the third bottle I would never have known he ever had a tumor there. He is now hearty and healthy. Sleeps as good as any child and is full of life. He does not take anything to prevent a return, and has not for over a year.

I have one of your Common Sense Medical Advisers, and found it worth five times what I gave for it; I have helped others to get it and the "Medical Discovery" and "Favorite Prescription" have brought relief to many through me. I use the "Prescription" off and on; it has given me strength; I think I should have been an invalid long ago without it.

Every one here knows the truth of this letter, and I would tell it to the world if I could. Respectfully,

MRS. ANNIE SUMNER, Heartwellville, Bennington Co., Vt.

DROPSY, SICK HEADACHE, DYSPEPSIA AND BLOODY PILES.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—In the winter of 1881, I became irregular in my monthly courses. Of course at first I paid but little attention to it, hoping it would amount to nothing and probably wear away. But I slowly but surely grew worse, and at last resolved to apply to the doctors for help. My water came often, and in small quantities, and with great pain, and with red brick-dust deposit. I was attacked with severe womb trouble, bloody piles and dropsy of the ovary. I was treated by five different doctors. I was compelled to wear an inside support for a year, but it still seemed impossible for me to get well and I began to feel exceedingly alarmed and very uneasy, not knowing what course to pursue, or what the consequences might be. I had heard of Dr. Pierce, and concluded to make one more trial, so I sat down and wrote a letter to him, stating matters as near as I could, and in due time I received a favorable reply; then I commenced with his medicine. I commenced somewhere in February 1891 with the "Golden Medical Discovery" and "Favorite Prescription," in alternate doses. A strange occurrence followed. My limbs felt like what we call "asleep," and I felt as if I were in a strange land and wondered what was going to take place. I kept on till I took nine bottles. The first relief I felt was from sick headache, which I had been troubled with for many years; I was also cured

MRS. KNAVEL.

of a very bad cough which I had been troubled with for many years, and of dyspepsia of long standing. I was entirely cured of a very singular and severe itching on my back, between my shoulders, which our doctors called winter itch and which they pronounced incurable. I had suffered with this for twenty years; it would come in the winter and go away in the summer. I was also cured of the worst form of bloody piles and of womb disease. At present I feel like a new person.

When I first commenced with Dr. Pierce's medicines, I could not walk half a mile without a pain. The other day I walked to Mercersburgh post-office, a distance of twelve miles, and the next day walked back again, and felt no bad results from the journey. I am now 51 years old.

Mrs. Knavel further writes, that "To any person desiring to know more concerning my case and its wonderful cure, and who will enclose to me a return self-addressed and stamped envelope for reply, I will be pleased to write further information." Yours respectfully,

SARAH A. KNAVEL,
Indian Springs, Washington Co. Md.

MRS. GUNEKEL.

WOMB DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I have been a sufferer from womb trouble for eight years, having doctored with the most skillful physicians, but finding only temporary relief from medicines prescribed by them. I was advised by a friend to take the "Favorite Prescription," which I did, and found, in taking six bottles of the "Prescription" and two of the "Discovery," that it has effected a positive cure, for which words cannot express my gratitude for the relief from the great suffering that I so long endured.

Respectfully,
MRS. W. O. GUNEKEL,
No. 1461 South 7th St.,
Terre Haute, Ind.

GENERAL DEBILITY. "FEMALE WEAKNESS."

DR. R. V. PIERCE, Buffalo, N. Y.: Hardy, Cascade Co., Mont.

Dear Sir—I have enjoyed pretty good health for the past three years. Before I took your "Golden Medical Discovery" and your "Favorite Prescription" I was so weak that I could hardly do my housework. I took seven bottles in all of the two medicines; they did me a world of good; I do not think I should have been here to-day were it not for your medicines.

I would send you my photograph, but I have none, and live sixty miles from a photographer.

Gratefully yours,

Mrs Thomas Prewett

TUMOR OF BREAST AND WOMB DISEASE.

MRS. JANE GOLDEN, of Durand, Pepin Co., Wis., writes Dr. R. V. Pierce, Chief Consulting Physician, at the Invalids' Hotel and Surgical Institute at Buffalo, N. Y., as follows: "It is my heart's desire to write to you of what your medicines have done for me. I was in a very bad state when I wrote to you, and you prescribed for me and I took your medicines according to directions and am a well woman again. I had uterine disease and tumor in the breast. The doctors said they could do nothing for me any more and must resort to the knife. I would not consent and so wrote to you, and followed your advice. I took two dozen bottles of your 'Favorite Prescription,' seven bottles of your 'Golden Medical Discovery' and my health is now better than it had been in twenty years; my neighbors said I could not live three months, and I know that your treatment and medicine cured."

MRS. GOLDEN.

ULCERATION OF WOMB. IRREGULAR MENSTRUATION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Please accept my heartfelt thanks for your medicines, which I have every reason to believe have cured me. I was afflicted for more than five years with falling of the womb and ulceration of the same, connected with very painful and irregular menstruation with chills during the same. Rush of blood to the head, sometimes falling down in insensibility and remaining so for several hours; and part of the time could not bear my weight on my limbs to stand up or walk at all for several days at a time. I was a burden to myself when I commenced taking Dr. Pierce's Favorite Prescription and "Golden Medical Discovery," and his "Pleasant Pellets" and "Smart-weed;" I used the glycerine and iodine as you prescribed for me also. I think I used one dozen bottles of "Prescription," half a dozen "Discovery" one dozen "Pills," one-half dozen "Smart-weed," at first and some more afterwards, only a few bottles, I don't remember how many.

MRS. SPICER.

I am now well, doing my own work, and do not suffer any more pain, and don't need any more medicine.

Respectfully,
MRS. MARY J. SPICER,
Boulder, Boulder Co., Colo.

SAVE DOCTORS' BILLS.

DR. R. V. PIERCE, Buffalo, N. Y.: Arcadia, Manistee Co., Mich.

Dear Sir—We received your kind letter, with the "Pellets," and are very much obliged for the same. We know they are just what you recommend them to be. We have used your medicines for about seven years and have depended almost entirely on them for five years. Before we began the use of your medicines, we used to have to employ a doctor every little while; now we do not have to. We have four children. We give them Dr. Pierce's Golden Medical Discovery when they take cold and I think it is far better than most cough medicines, for the "Discovery" helps the appetite and the cough medicines make one sick. I like your idea of keeping the blood pure and the "Discovery" is the medicine for that. I take a bottle twice a year, in the spring and fall, and I have recommended it to several other ladies who have tried it and they all think highly of it. I have bought thirteen bottles of the "Discovery" and three bottles of Dr. Pierce's Favorite Prescription and nine bottles of the "Pellets" in five years, so you see our doctor-bill has not been very large. Our oldest boy hurt himself, lifting, and I depended upon Dr. Pierce's Compound Extract of Smart-weed for external application, and it cured him. I bought two bottles of that.

Yours truly,

Mrs. L. Keillor

"FEMALE WEAKNESS."

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I took your Dr. Pierce's Favorite Prescription when I was run-down and through the warm weather. It worked like a charm on my system and I am a good deal heavier in flesh now. It is the best medicine in the world for "female troubles," for I took almost all kinds of Patent Medicines, and doctors' prescriptions without benefit. There is hardly a day passes but that I recommend it to some of my lady friends.

Yours truly,
Mrs. CORA CUMMINGS,
No. 74 E. Yates St., Ithaca, N. Y.

MRS. CUMMINGS.

CHILDBIRTH MADE EASY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Your medicines have my greatest praise as they did me a great deal of good. I was sick for nearly three years. Sometimes I thought I would go crazy I was so weak, nervous, and down hearted, and sour in spirits, that I was afraid I would die every day, and such mean feelings I could not describe to any one. I remained in this stage for nearly three years, doctoring with every home doctor and trying every medicine that I thought would help me, and I could get no relief. I could not sleep at times and had palpitation of the heart so that I would have to get up, for my heart would beat so fast I thought every minute I would die. The misery I went through no one could describe.

MRS. JOHNSON.

A lady friend handed me Dr. Pierce's Common Sense Medical Adviser, and I wrote to you about myself, and you told me to take "Favorite Prescription" and "Golden Medical Discovery." I commenced in the spring and took three bottles of each of your medicines, and I felt so much better I thought that was enough, and ever since I have had my health. I grew stronger, and could run and skip about like a child, and was happy all day long. I felt so well I could hardly believe it was myself. I just used the two kinds of medicines—"Golden Medical Discovery" and "Favorite Prescription," and followed the "Common Sense Medical Adviser," took regular baths, and dieted for about a year, and the result was a bright baby boy which brightens our home. I took the "Favorite Prescription" before, and the result was a few hours' labor and got along splendidly; my baby weighed twenty-four pounds at seven months—a brighter, healthier baby than he is there never was.

Respectfully yours,
MRS. MINA JOHNSON,
Riverside, Ravalli Co., Mont.

PARTIAL PARALYSIS FROM UTERINE DISEASE.

Buffalo, Larue County, Ky.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I am still having very good health. I value Dr. Pierce's Golden Medical Discovery and his "Favorite Prescription" very highly and often recommend them to others. I do not think I would ever have got well if it had not been for your medicines. I was in a sad condition. My bowels and half of my body (the left side), was nearly paralyzed, besides nearly my whole system was out of order. I suffered all the time; but after taking six bottles of "Golden Medical Discovery" and the same of "Favorite Prescription," and using two bottles of Sage's Catarrh Remedy as an injection, I felt like a new person. I have never seen anyone suffering in the same way as I did. If anyone with female trouble of any kind will use your medicines I am satisfied they will help them.

Yours truly,

Mary A. Sallee,

IRREGULARITY AND UTERINE DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION
Buffalo, N. Y.:

Gentlemen—I cannot say enough for your Dr. Pierce's Favorite Prescription. For years I suffered from irregularity and uterine debility, but now I feel as well as I ever did in my life. Thanks to you for your "Favorite Prescription," for it has performed a permanent cure of me.

With gratitude, I remain,
Yours,
L. M. HENDERSON,
Springfield, South Dakota.

MISS HENDERSON.

WOMB DISEASE.

DR. R. V. PIERCE, Buffalo, N. Y.:

MRS. SPRIGGS.

Dear Sir—I think your "Favorite Prescription" was the preservation of my life. I was under the doctor's care for three months with womb disease and a gradual wasting all the time. I was so weak that I could not be raised in bed when I commenced taking the "Prescription," and by the time I had taken three bottles I was up and going wherever I pleased, and have had good health and been very strong ever since. That was four years ago. I have recommended it to a good many of my friends, and they have taken it and are highly pleased.

Yours truly,

G. A. SPRIGGS,

Long Savannah, James Co.. Tenn.

ULCERATION OF WOMB.

St. John, Whitman Co., Wash.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—For three months I was almost prostrated with ulceration of the womb. I began the use of Dr. Pierce's Favorite Prescription and his "Golden Medical Discovery," and other remedies that are prescribed in his treatise on womb diseases. After three months' use of same I was cured. I have implicit faith in their medicines and can recommend them to others who are similarly afflicted. Yours truly,

Mrs. Geo. Thornton.

LESSENS MISERY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,

Buffalo, N. Y.:

MRS. LINDSEY.

Dear Sirs—I think Dr. Pierce's Favorite Prescription the best medicine in the world for females; I consider myself entirely well. I can do as much work as any woman. I gave birth to a healthy girl; your medicine is the best in the world for pregnant ladies—*it lessens the misery of that critical period.* I cannot praise it too much. I have gained ten pounds since I began using your valuable remedy. Yours respectfully,

MRS. MARY LINDSEY,

Williams Station, Escambia Co., Ala.

OVARIAN DISEASE.

Bridgeport, Putnam Co., Fla.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I received the Common Sense Medical Adviser and I am well pleased with it. I return many thanks to you for your kindness. My complaint was pain in my back, and in my side, that moved from the right side to the left; shortness of breath and pain in the lower part of the stomach, and my doctor said I had ovaritis and I took two bottles of the "Favorite Prescription" and one bottle of the "Golden Medical Discovery," and I am relieved of all pains in the back and sides, and of womb complaint. I shall always speak good words for you. I suffered with those pains for five years. Yours truly,

Mrs Nancy Brooks

LEUCORRHEA.

MRS. PARKER.

Brooklyn, Jackson Co., Mich.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I am more than willing to say your most valuable medicine has cured me of a very disagreeable complaint, leucorrhea. I suffered for years with pain in my back, never a night was I free. At your request I commenced a course of Dr. Pierce's Favorite Prescription and "Golden Medical Discovery." I could not sleep on a mattrass; it seemed as though it would kill me. Since taking the medicine I can sleep anywhere; I am perfectly well. I would not be placed in my former condition for any money. I bought six bottles, or $5.00 worth. I took but four, my husband took the "Golden Medical Discovery." At this time I had a servant girl who suffered badly from pain at the time of her monthly periods; she took the other bottle of "Favorite Prescription," which was a great help to her. Gratefully yours,

Mrs. T. H. Parker

SEVERE FLOWING (MENORRHAGIA.)

Lewistown, Mifflin Co., Penn'a.

Gentlemen—Seven years ago this month, I was taken sick—was bed-fast six months, and during that time, many times, was not able to eat alone. I had the best doctor that could be got. I would have sinking spells. My nerves were prostrated and I had female weakness and ulceration of the womb, which caused such excessive flowing that they thought I would die; then I would take sinking spells. My stomach was too weak, the medicine could not do its part as it should have done. I had torpid liver and right side of lungs affected; catarrh of the throat and piles; palpitation of the heart, and kidneys were somewhat affected. My doctor got me up and able to walk through the house, but the flowing would still be so bad that I would have to take the bed; then would be able to be up again and learn to walk a little again till the time would come again.

My doctor treated me for the ulcers. A lady came to see me. She told me to try Dr. Pierce's Favorite Prescription. I got it but did not tell my doctor. He soon remarked the improvement and I then told him what I was using; he told me to use it, that it would be good for me. I used eleven bottles of the "Favorite Prescription," and two of the "Golden Medical Discovery." The flowing was not so bad. I got so I could sit up and be about at all times, and walk about in the house. I am still improving, and can do light house work. I am able to walk out to church every Sunday. Yours truly,

Mrs Abner Knepp

"FEMALE WEAKNESS."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—A few years ago my health failed. I was troubled with female disease in its worst form having been afflicted about fifteen years. I was also troubled with constipation, loss of appetite, dizziness and ringing in my head, nervous prostration, hysteria, loss of memory, palpitation of the heart together with "that tired feeling" all the time. I consulted several physicians—no one could clearly diagnose my case and their medicine failed to give relief. After much persuasion I commenced taking Dr. Pierce's Favorite Prescription—have taken five bottles and am a well woman doing all my house-work; from a run down condition I have been restored to health. I feel it my duty to recommend your "Favorite Prescription" for ladies afflicted with female diseases as I have been.

Gratefully yours,
MRS. BYRON DANARD,
Milford, Prince Edward Co., Ont., Canada.

MRS. DANARD.

MISS SAMPSON.

INDIGESTION, IMPOVERISHED BLOOD.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—After suffering for over a year with indigestion and low condition of the blood I was advised to try Dr. Pierce's Favorite Prescription. I had hardly finished the first bottle when I felt a great change, so I continued on until I had taken three bottles, and at the end of that time I was completely cured. My health was so much impaired that I feel I owe a great deal to your wonderful medicine. Thanking you for the advice which you so kindly gave me while taking your medicine, I am,

Most gratefully,
MISS CASSIE SAMPSON,
No. 347 McHaren Street,
Ottawa, Ottawa County, Ontario.

"FEMALE WEAKNESS."

Nixon, Hardin Co., Tenn.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—I am in very good health now. I think your "Favorite Prescription" is wonderful. I brought forth a fine son the first day of December—the fattest baby I ever saw, and that is why I think your medicine is such a fine one for poor sickly females. I know I never would have become pregnant, if I had not got in better health. I feel it my duty to do all that I can to praise you and your wonderful "Favorite Prescription." I can highly recommend it to all females who are suffering with leucorrhea, for I don't think any one suffered any worse than I did when I made my case known to you. May God bless you, and your great medicine—the "Favorite Prescription." Yours truly,

Sallie L. Howard

ULCERATION AND FALLING OF WOMB.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I had been suffering from ulceration and abscess in the womb, and falling of the womb, for several years or since the birth of my youngest child. I consulted all the physicians around here and they gave me up and said there was no help for me.

At last, almost discouraged, I found in a little book your medicines advertised. I did not have any faith in them—I had tried so much and failed to get relief. But I began taking Dr. Pierce's Golden Medical Discovery and his "Favorite Prescription," and took five bottles of each, and used two bottles of your Sage's Catarrh Remedy for vaginal injections. It is three years since and I have not had any return of the trouble. I feel very grateful, and in fact, owe you my life, for I do not think I should have been alive now if I had not taken your remedies. Respectfully,

MRS. ABRAM LYON,
Lorraine, Jefferson County, N. Y.

MRS. LYON.

BARRENNESS, DYSPEPSIA, "LIVER COMPLAINT."

Basin, Cassia Co., Idaho.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I first had dyspepsia and "liver complaint" for five years, and I took six bottles of Dr. Pierce's Golden Medical Discovery and his "Pleasant Pellets," which entirely cured me of that complaint. I also had painful menstruation, and took about eight bottles of Dr. Pierce's Favorite Prescription and two bottles of his Compound Extract of Smart-weed, which cured me. The symptoms of this disease were very severe, pain in the region of the womb, back and thighs, chilliness and nausea; this disease was so severe that I was barren for two years of married life, and after taking the "Favorite Prescription," I became the mother of a boy. Yours respectfully,

Mrs Emma McIntosh

GENERAL DEBILITY, MALARIA, SICK HEADACHE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I am happy to say that your valuable medicine has been a great benefit to me. I was suffering from general debility, malaria and nervous sick headaches, and after my third child was born (a beautiful baby boy of ten pounds) I only recovered after a long illness; I barely gained strength enough in two years' time so that I was able to crawl about to accomplish the little housework that I had, by lying down to read many times each day; had sick headaches very often; and many pains and aches, all the time complaining of getting no better. I finally asked my husband to get a bottle of Dr. Pierce's Favorite Prescription, which he promptly did. After I had taken one bottle I could see a great change in my strength, and fewer sick headaches.

MRS. J. H. LANSING.

I continued taking the medicine until I had taken eight bottles—seven of the "Favorite Prescription" and one of the "Golden Medical Discovery." For some time past I have not used it but I am now able to do the housework for myself, husband and two children (aged nine and five years). I also take in dressmaking, and enjoy walking a mile at a time, and I think it is all due to the medicine, for I know I was only failing fast before I commenced to take it. I take great pleasure in recommending the "Favorite Prescription" to all women who suffer from debility and sick headache.

Respectfully yours, MRS. J. H. LANSING,
South Glens Falls, Saratoga Co., N. Y.

OVARIAN PAINS.

Ligonier, Westmoreland Co., Pa.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—The doctors never gave any name for my disease except that one doctor said it was severe pain in the ovaries. His medicine did me no good; but whatever ailed me I was in such misery I could not describe what I suffered. The first thing that gave me any relief was Dr. Pierce's Favorite Prescription. The first half bottle made me feel much better. I used two or three bottles and thought I was cured, but it came back in three or four months, and as soon as I began to take the medicine again I got better. I took two or three bottles again, and never felt anything of it since; and that is nearly four years ago, and I give all thanks to Dr. Pierce's Favorite Prescription. I use no other medicine at all for stomach trouble but Dr. Pierce's Golden Medical Discovery. I have been troubled some with rheumatism, when nothing else would do any good, "Golden Medical Discovery" cured me; I had not taken more than one-half bottle when I felt like another woman, and I would advise any who has any trouble with his stomach, or who has rheumatism, to try it as there is not its equal to be found.

Yours truly,

Mrs S A Beatty

"GIVES A NEW LEASE OF LIFE."

Jamestown, Chautauqua Co., N. Y.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—Both your communications have been received. I have neglected to answer them. I am glad to say in this letter that my sister is very much improved in health, and says she feels as if she had a new lease of life. She feels so much better since she commenced taking your medicine. I think it was just the medicine she needed, and am more than thankful to you for the kindly interest you have taken, and hope that others will find the same benefit from your valuable books and medicines, that my sister has. I will close with gratitude to you.

Yours respectfully,

MISS MOLLIE M. CROWLEY,
(for sister) care Sherman House, Jamestown, N. Y.

MISS CROWLEY.

MRS. SIMMONS.

MOTHERS' RELIEF.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Doctor Pierce's Medicines have been our family medicines for twenty years. They are all they have been represented to be, and untold benefits have been derived from them.

Have been treated by you with your Special Remedies, and cured of difficulties that our family doctor failed to cure; and when ailing, by the use of a few bottles of "Golden Medical Discovery," have been always benefited.

I recommend Dr. Pierce's Favorite Prescription to every one who is having a family—taken as directed, it works like a charm in confinement.

Respectfully,
MRS. A. D. SIMMONS,
Emporia, Lyon Co., Kas.

"FALLING OF WOMB."

Clover Hill, Coahoma Co., Miss.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I cannot tell you how I have improved since I have used Dr. R. V. Pierce's Favorite Prescription and his "Golden Medical Discovery." I had been suffering for four years and I began to get worse and worse until I commenced using these medicines, and then I began to get better, and now I feel like a new woman.

I suffered much from "falling of the womb," and headache, and pains in my back, and I thank you kindly for the good your medicines done me. I can do my house-work now and not feel bad from it. I hope others will find the same benefit from your valuable books and medicines that I have.

Gratefully yours,

Eliza Allen

"WOMAN'S ILLS."

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—A few years ago I took Dr. Pierce's Favorite Prescription, which has been a great benefit to me. I am in excellent health now. I hope that every woman, who is troubled with "women's ills," will try the "Prescription" and be benefited as I have been.

Yours truly,
MRS. W. R. BATES,
Dilworth, Trumbull Co., Ohio.

MRS. BATES.

AN OLD LADY'S TRIBUTE. BETTER THAN CALOMEL.

Clinton, Hinds Co., Miss.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—It gives me much pleasure to say that I have been greatly benefited by Dr. Pierce's Pleasant Pellets. They act on the stomach and liver, and clear the complexion better than calomel, and you are relieved of that awful sickness and constipation which other medicines produce.

Dr. Pierce's Golden Medical Discovery is the greatest tonic in the world, to build up the broken-down constitution. I am an elderly lady, sixty-six years old. I feel that my days are of short duration and would not give a word of recommendation if I did not feel it my duty to suffering humanity.

Yours truly,

Mrs. A. A. Watts.

MISS FUGATE.

A YOUNG LADY'S ADVICE TO INVALIDS.

"A Sure and Certain Cure."

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—Please accept my thanks for the good your medicines have done me. I truly believe the "Favorite Prescription" saved my life; it is a sure and certain cure. I am having perfect health; I am stout and can do all my housework.

Every invalid lady should take Dr. Pierce's Favorite Prescription and "Golden Medical Discovery."

Yours respectfully,

ROZZIE FUGATE,
Madisonville, Hopkins Co., Ky.

BETTER THAN "SUPPORTERS."

Leesville Cross Roads, Crawford Co., Ohio.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Four years ago, I became afflicted with womb trouble—knew nothing but pain and suffering. Began doctoring right away with our home doctor. He not doing me any good, I went to another doctor who advised me to wear an inside supporter, *which really did me more harm than good*. Last spring was taken down sick and laid on my back for ten weeks; when I heard of Dr. Pierce's wonderful Favorite Prescription. The first bottle helped me. I have now taken four bottles and feel perfectly cured. I cannot find language to express my gratitude for being restored to perfect health from a condition worse than death.

Yours truly,

Mrs O. A. Holmes

SUPPRESSED MENSTRUATION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—When I was fourteen years old I took a bad cold and there resulted internal troubles. I was a great sufferer for four years. I had tried two physicians but neither gave me any relief. After taking Dr. Pierce's Favorite Prescription I can't say enough for it. It cured me so I have no more pains. I am now nineteen years of age.

Respectfully,
MISS MAMIE BURK,
Everett, Bedford Co., Pa.

MISS BURK.

HOW TRAVELING INVALIDS MAY BE IMPOSED UPON.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—It is now about five years since I spent eight days at the Invalids' Hotel and Surgical Institute, under treatment for a chronic disease of eighteen years' standing. I had given up to die. Going to your Dispensary was a last resort with me; I had undergone a surgical operation at the hands of my family physician from which I grew worse every day for eight months, so that I very despondently started for your institution; and when I had traveled eleven hundred miles I was made more despondent by inquiring of a man how far I had to travel to reach Buffalo, N. Y.: He answered, "Just one hundred miles." I then inquired of him if he had ever been in Buffalo, N. Y. He replied, "Many a time." I then asked him, what about Dr. Pierce's world-famed Surgical Institute? "Oh, it's a humbug. They have some drawings or pictures taken from some government buildings, that's where they get that fine building you see pictured in their books and pamphlets."

I don't suppose there ever was a sadder heart entered the door of the Invalids'

Hotel than that heart of mine; but it was soon made glad to be glad ever since. During the first night in the Invalids' Hotel I met and talked with patients afflicted as I was. Many of them were cured and talking of going home next day, and sure enough, they went; but I never missed them in number for others kept coming.

I can honestly and truthfully say that the World's Dispensary Medical Association of Buffalo, N. Y., is anything else than a humbug. The reason why they are not humbugs is plain. They continue to perform wonderful cures and treat their patients with unsurpassed nursing, and a kinder lot of physicians, surgeons and nurses I don't believe can be found in the world.

I cheerfully advise all persons suffering from chronic diseases not to stop to count the distance from where they live to Buffalo, N. Y., but go straight to the Invalids' Hotel and Surgical Institute without delay, for it is by the will of God and their skill that I am living to-day. Yours truly,

L. M. McPhail

Autun, Anderson County, S. C.

NERVOUSNESS, "FEMALE WEAKNESS," NASAL CATARRH.

MRS. SANDERSON.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—My health was utterly gone. Was suffering from nervousness, female troubles and nasal catarrh; life was almost a burden to me, but a glorious change came, due solely to Dr. Pierce's Favorite Prescription and Dr. Sage's Catarrh Remedy. I have suffered more than tongue can ever tell. I have been treated by good physicians but they only help me temporarily. I have taken a great many patent medicines with the same result. In 1890, I began taking Dr. Pierce's Favorite Prescription and Dr. Sage's Catarrh Remedy, which gave me immediate relief and a permanent cure.

Respectfully,

MRS. BELLE SANDERSON,

Sprout, Nicholas Co., Ky.

MADE HER "STRONG AND WELL."

DR. R. V. PIERCE, Buffalo, N. Y.: West Liberty, Ohio.

Dear Sir—I can cheerfully recommend your valuable medicine, the "Favorite Prescription," to suffering females. Three years ago my health became so poor that I was scarcely able to help with the household duties. I was persuaded to try your medicine, and purchased six bottles. That, with the local treatment you advised, made me strong and well. My sister has used it in the family with like results. Yours truly,

L. E. Johnson

MADE LIFE A BURDEN.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—For years I suffered monthly from periodic pains which at times were so acute as to render life a burden. I began using Dr. Pierce's Favorite Prescription. I used seven bottles in as many months and derived so much benefit from it and the home-treatment recommended in his Treatise on Diseases of Women, that I wish every women throughout our land, suffering in the same way, may be induced to give your medicines and treatment a fair trial.

Gratefully yours,

MISS G. F. CRAWFORD,

Limestone, Me.

MISS CRAWFORD.

"FEMALE WEAKNESS," LEUCORRHEA.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N Y.:

MRS. REED.

Gentlemen—I will write you a few lines to-day and feel thankful that I can say I enjoy good health most all the time. When I first commenced using your medicine I was suffering from female weakness, leucorrhea, bearing-down pains and a soreness across me that at times I could hardly stand up straight when I would get up off of my chair to walk across the room. I got a bottle of your "Favorite Prescription" and by the time I had used half of it, the soreness began to get better. I used three bottles altogether, and since that, you might say I am enjoying the best of health most of the time. I have had two baby boys since—both healthy, although the baby is only three weeks old, and I am doing all of my own work since he was two and one-half weeks old.

I always speak highly and recommend your medicine because I know it deserves a good name; and I feel certain it will cure female diseases if they give it a fair trial. Yours respectfully,

MRS. RICHARD REED,
Springfield, Kings Co., N. B.

FEMALE IRREGULARITIES.

Cuscowilla, Mecklenburg Co., Va.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I take pleasure in adding my testimonial to the great list, and hope that it will be of interest to suffering humanity. I tried three doctors and none of them seemed to do me any good. When at last I almost despaired of health any more, I saw in a paper one of your advertisements, and I sent for and got two bottles of Dr. Pierce's Golden Medical Discovery, and I improved so rapidly that I sent for and got three bottles of your "Favorite Prescription," and now I am as well as I have been since I was a child.

I had been a sufferer for three years when I commenced taking Dr. Pierce's medicines. When I commenced taking it, I was not able to walk across my room without help, or rise from my chair. I suffered from nervousness very much, and with the least excitement I would faint; and I think, in short, I suffered with female irregularities and that your medicine has brought me through. I don't think I can say enough for it. I have used five bottles of your medicine in all.

If any one wishes to know what I have to say, they can address me in person, enclosing stamps. With respect, I am, Yours,

Sarah E Tucker

"JUST A MERE SKELETON."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—If I had not taken your medicine I would not be here now. The doctors did me no good, I was just a mere skeleton, could not eat. I would have awful pain in my stomach—pain in my side, bowels and chest; soreness in my back and womb; was weak, nervous and could not sleep.

After I took your "Favorite Prescription" and "Golden Medical Discovery," I commenced to improve. In two weeks could walk about the house—could eat—did not have any more pain in my stomach—threw away my morphine powders. When I first commenced taking the medicine it made me feel worse. I was hoarse, could not speak aloud for three days; as I got better my pains and bad feelings left me and I could sleep good; my nerves got better. Before I took your medicine I kept my bed four months—got worse all the while. I am now quite fleshy and can work all day.

Respectfully,
MRS. WILLIAM ROBERTS,
Bridgeport, N. Y.

MRS. ROBERTS.

CONSTANT SUFFERER FOR MANY YEARS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

MRS. SCOTT.

Gentlemen—For many years my wife has been a constant sufferer from indigestion, sick headache, nervous prostration and all other complaints that the female sex is heir to, and, after trying many remedies and doctors with but little or no relief, I persuaded her to try Dr. Pierce's Favorite Prescription and "Golden Medical Discovery." She was so out of heart, she returned the answer that it would be like all the rest—of no good; but on my account, she said she would try it, so I got one bottle each; and before she had used half of a bottle she felt that it was benefiting her, and she has continued to improve ever since, and now thinks it the most wonderful remedy on earth for her sex, and recommends it to all suffering females. She has not been so well in ten years.

I write this without any solicitation and with a free, good will, so that you may let all who may suffer know what it has done for her.

Yours truly,
M. W. SCOTT,
U. S. Marshall's Office,
Atlanta, Ga.

A MOTHERS' FRIEND.

Tanks, Cottle Co., Texas.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—I took your "Favorite Prescription" previous to confinement and never did so well in my life. It is only two weeks since my confinement and I am able to do my work. I feel stronger than I ever did in six weeks before.

Yours truly,

Cosda. Culpepper

BED FAST.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
663 Main St., Buffalo, N. Y.:

MRS. TAPPAN.

Gentlemen—For about two years I was a constant sufferer from diseases peculiar to my sex. I had to be carried from my bed, had horrible dreams, sinking sensations, was very nervous and had little or no appetite. In short, my whole body was racked with pain. I had frequent attacks of hysteria, and was completely discouraged, for I found no medicine did me any good. At last I determined to give your "Favorite Prescription" a trial. I had taken but two bottles before I felt so much better! I took eleven bottles. To-day I am well. I have never felt the least trace of my old complaint in the last six years. We use the "Golden Medical Discovery" whenever we need a blood-purifier. By its use, eruptions of all kinds vanish and the skin is rendered clear and soft, almost as an infants.

Respectfully,
MRS. HARRY TAPPAN,
Reynolds, Neb.

AT DEATH'S DOOR.

Abita Springs, La.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—My wife suffered from laceration of the womb and inflammation—she was completely bed-ridden and lingered about one year at death's door. Local applications were given her and Dr. Pierce's Favorite Prescription; she gradually regained strength and continued to do so until she recovered. I am convinced that any case of womb disease can be certainly and permanently cured by the use of your remedies.

M. L. Rees

Agt. Southern Exp. Co.

HEART, LIVER, AND STOMACH DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

MRS. LANDRUM.

Gentlemen—About nine years ago my health began to fail; had a continual pain and aching under my right shoulder and in or under my right breast; I could not eat anything but a little milk or bread, and even that made my stomach pain and hurt me so I could not rest; I kept getting weaker all the time and I could no longer sit up; I sent for our family physician; he said I had dyspepsia and inflammation of the liver, and gave me medicine two or three months, but I kept getting weaker all the time; it seemed to me that I was diseased all over; thought I had heart disease; had the doctor examine my heart several times. I became so discouraged that I gave up all hope of ever getting well, but consented to send to Dr. Pierce for medicine. I commenced taking it and in a short time I was able to sit up; continued to take his medicine three months and felt like a new person—didn't need any more medicine and have not yet. I can eat anything I wish; am sixty-three years old; can walk a mile without any trouble, and I can truly say that I believe it was Dr. Pierce's medicines that saved my life.

Respectfully yours,
MRS. VIRGINIA LANDRUM,
Merino, Logan Co., Col.

UTERINE DISEASE.

Creston, Iowa.

DR. R. V. PIERCE, Buffalo, N. Y.:

Sir—My wife improved in health gradually from the time she commenced taking "Favorite Prescription" until now. She has been doing her own housework for the past four months. When she began taking it, she was scarcely able to be on her feet, she suffered so from uterine debility. I can heartily recommend it for such cases.

Yours truly,

H. H. Snyder

THE PICTURE OF HEALTH.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—My daughter, Miss MEEKER, was sick and we called in one of the best doctors here. She got so weak that I had to help her out of bed and draw her in a chair. She then tried some of Dr. Pierce's Favorite Prescription. In less than a week she was out of bed and has been working about five weeks now, and looks the picture of health. As for myself I am much better of my female complaint. Before taking the "Favorite Prescription," I suffered most of the time from catarrhal inflammation.

Yours respectfully,
MRS. NANCY MEEKER,
Dunraven, Delaware Co., N. Y.

MISS MEEKER.

LIFTED THE BURDEN.

Nye, Putnam Co., W. Va.

DR. R. V. PIERCE, Buffalo, N. Y.:

Dear Sir—Mine is a case of eleven years' standing, which baffled the skill of the best medical aid procurable. I obtained no good effect, until I began the use of the "Favorite Prescription," which lifted the burden which was seeking my life. My gratitude I owe to the "Prescription." I hope that all suffering humanity (as in my case) may profit by the result of my experience.

Yours truly,

Evoline Neil

SPERMATORRHEA

(SEMINAL WEAKNESS),

or emission of semen without copulation, is generally induced by the early habit of masturbation. It is one of the evidences that passion, instead of prudence, has held sway. Passion may aptly be termed the voice of the body, by which, if we listen, we are enchanted and led astray. Conscience is the voice of the soul, which remonstrates, and if we obey, we shall be guided aright. We cannot reconcile these conflicting voices, and if we indulge the passions when conscience forbids gratification, the remembrance of the wrong remains forever, and constant fear is an everlasting punishment.

Wrecked Manhood. Man possesses few powers which are more highly prized than those of virility, which is the very essence of manhood. "He is but the counterfeit of a man, who hath not the life of a man."

The Semen is a milky fluid of the consistency of mucus. It is secreted by the testicles and is intermixed with the fluids secreted by the prostate and by Cowper's glands. Its fertilizing property depends on the presence of minute bodies, termed *spermatozoa*. These consist of little polliwig-shaped bodies (Fig. 3), having large heads and long filaments or tails. Under the microscope these little bodies are seen to describe movements not unlike those of polliwigs.

Why Emissions of the Vital Fluid Debilitate. The seminal fluid consists of the most vital elements in the human body. It not only assists in maintaining the life of the individual, but communicates the essential, transforming principle which generates another mortal having an imperishable existence. Its waste is a wanton expenditure, which robs the blood of its richness and exhausts the body of its animating powers. No wonder that its loss enfeebles the constitution, and results in impotency, premature decline, St. Vitus's dance, paralysis, epilepsy, consumption, softening of the brain, and insanity. No wonder that conscience and fear become tormenting inquisitors, and that the symptoms are changed into imaginary spectres of stealthily approaching disease.

"There is no future pang
Can deal that justice on the self-condemned
He deals on his own soul."

The Practice of Onanism squanders the vitality and bankrupts the constitution. Indigestion, innutrition, emaciation, shortness of breath, palpitation, nervous debility, are all symptoms of this exhaustion. Subsequently, the yellow skin reveals the bones, the sunken eyes are surrounded by a leaden circle, the vivacious imagination becomes dull, the active mind grows insipid—in short, the spring, or vital force, having lost its tension, every function wanes in consequence. Ex-

cessive lustful enjoyment produces feebleness, and finally terminates in disease and impotency.

Seminal Weakness may be the result of marital excesses. A *proper* sexual gratification contributes to the health and happiness of both parties. On the other hand, intemperate indulgence not only prevents fruitfulness, but ultimately, if persisted in, renders the husband entirely impotent, and undermines and destroys the constitution of the wife. Spermatorrhea may be induced by spinal irritation, intestinal worms, or piles. It may also result from inherited, as well as acquired, constitutional weakness.

Nocturnal or Night Emissions. Involuntary emissions of semen most frequently occur during amorous dreams at night, and are therefore termed *nocturnal emissions*. Although they are at first occasioned by lascivious dreams, attended by erections and pleasurable sensations, yet, as the disease progresses, the erections become less perfect and the losses are only revealed by the depression of spirits experienced the following morning, and by the stiffened and stained spots on the linen. At first, these emissions may occur but once in two or three weeks, unless the patient be excited by company, stimulation, food, drinks, or other causes; but, at a later stage of the disease, they sometimes take place every night. In aggravated cases, the seminal sacs are so weakened that the warmth of the bed, friction of the clothing, reading obscene literature, viewing indecent pictures, indulging in lewd conversation, or even being in the presence of women, produces a waste of semen—many times unattended by erections. When there is great weakness, seminal discharges may be induced by lifting heavy weights, pressure upon the genital organs, horseback riding, straining at stool, or even upon urinating, as observed when muscular efforts are made to expel the last drops, which appear thick and viscid. If the urine be allowed to stand for a few hours, the seminal discharge will be precipitated, and will form a light-colored deposit at the bottom of the vessel. If the sediment be examined with a microscope, spermatozoa can readily be detected in it.

Wasting Away of the Testicles. Masturbation not only occasions loss of semen, but frequently the testicles and other generative organs waste and become reduced in size as a result of the abuse. Fig. 1 shows the testicle in a healthy condition, while Fig. 2 represents one much reduced, as a result of self-abuse.

The celebrated Dr. Drewery, of London, speaking of the reason why masturbation is so extremely injurious in its effects upon both body and mind, says:

"This is a question which I have often been asked by patients, and it is one which is rather difficult to explain to any one not acquinted with the phenomena of reflex nervous action.

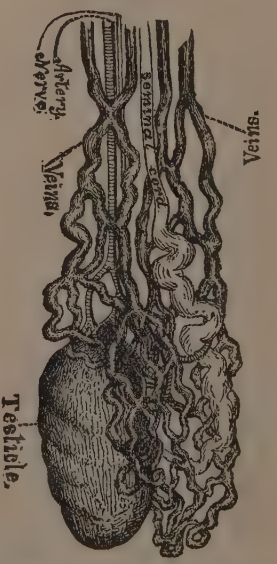
"Perhaps the simplest mode of putting it is to say that the effects produced by the excitement of the parts are not the direct result of

the stimulation, but that the excitement of the extremities of the nerves is conveyed through them to the spinal cord and brain, and that the emission which occurs, when sufficient stimulus has been applied, is the result of nervous force reacting upon the parts from the spinal cord back again. This action is termed reflex, and is similar to that of vomiting, which is only produced through the medium of the great nervous centres; so that if the nervous communication between the stomach and spinal cord and brain is cut off, nothing in the stomach could possibly cause vomiting, whereas if the communication remains intact, this action can be immediately

Fig. 1.

The Testicle in a healthy condition.

Fig. 2.



A Testicle wasted by Masturbation.

produced by irritation of nerves far away from the stomach, viz., by tickling the fauces, as every drunkard is well aware who has ever put his finger down his throat for the purpose of emptying his stomach of the contents which are poisoning him, but which without the additional stimulus he is unable to expel. It will be seen, therefore, from this that the act of emission is only produced through the agency of the spinal cord, and not by any direct nervous action between the parts which are stimulated, and those which are concerned in the emission.

"The brain is also concerned to the fullest extent in the production of these phenomena, as are all the senses of the body; this is proved by the fact that emissions occur during sleep, without any excitement

beyond the engorgement of the parts with blood, produced by the cerebellar congestion of the brain, usually found to follow lying upon the back during sleep. This, however, is unnatural and unhealthy, and is usually the result, as before pointed out, of masturbation. But these two important points must be remembered—that emission may be produced by friction merely as a purely spinal reflex action, and it may be caused by the action of the brain without any friction whatever. Both these results are unhealthy and injurious. A true natural and healthy act of sexual intercourse demands the excitement of brain, spinal cord, and every nerve in the body simultaneously, and resembles the lightning flash which restores the equilibrium of electric force disturbed during a thunderstorm.

"It is useless to endeavor to describe the marvelous actions of nervous force, but from what has been said it is not difficult to comprehend that if a convulsive action is produced in any part of the body by the sole excitement of the spinal cord, when it is necessary for its healthy and natural production that the brain and senses generally should be equally excited, the balance of nerve power is destroyed, which fact alone is proved by the effects upon the nervous system always following masturbation, which is the irritation of the spinal cord without the assistance of the brain."

Various Complications are likely to arise in the progress of this malady.

Stricture of the Urethra, or water passage, is a very common complication and, even when quite slight, generally interferes very seriously with the cure of the spermatorrhea when overlooked by the attending physician, as is very commonly done, especially when the constriction of the water passage is only slight. Very often it occurs in our practice that on examining a case of this disease that has been the rounds of the doctors, we find a stricture, which had been entirely overlooked by other practitioners, being so slight as not to occasion serious obstruction to the flow of urine but yet sufficient to interfere very much with the cure of the spermatorrhea. The size of the urethra, or water passage, should bear an exact and proportionate relation to that of the penis, and when from any cause the urethra is contracted below this normal size, it should receive attention, as otherwise the stricture is likely to increase and the passage becomes so constricted as to produce serious disease of the bladder, and not fail to perpetuate spermatorrhea, when this disease exists.

Hydrocele *(Dropsy of the Scrotum)* consists of an undue secretion of the fluid which moistens the *tunica vaginalis*, and may arise from an irritation of the testicle, produced by masturbation. This subject is fully considered in the Medical Adviser.

Varicocele is a dilatation of the veins of the spermatic cord and scrotum, and is frequently a result of masturbation. It is readily distinguished under the form of a soft, doughy, compressible, knotty,

and unequal enlargement of the veins, and a tumid condition of the adjacent parts. One writer, speaking of the enlargement of the spermatic vessels, describes them as "feeling like a coiled up bundle of worms."

Disease of the Prostate Gland is frequently caused by solitary indulgence. Venereal excesses produce congestion and the gland is overnourished. It becomes greatly enlarged, a condition called *hypertrophy*. This affection gives rise to a heavy feeling or pressure in the region below the bladder, and often interferes seriously with urination, and gives great pain and uneasiness, and often results in grave and dangerous complications.

Prostatorrhea consists of an unnatural flowing or wasting of the prostatic secretion, which may be known by its mucous-like appearance, and, when placed within the field of the miscroscope, by the absence of *spermatozoa* or fecundating germs. It is often mistaken for spermatorrhea, or for gleet, by inexperienced and careless physicians. For a full consideration of diseases of the prostate gland, see Part IX of our Dime Series of pamphlets, which will be sent on receipt of ten cents in postage stamps.

Again, the habit of self-pollution weakens all the structures of the genital organs, and induces seminal waste, which may lead to a morbid diminution in the size of the prostate gland. This condition, which is exactly the opposite of the one above described, is *atrophy*. Any disease which renders the circulation in the prostate gland languid and feeble interferes with the nutrition of that organ and impairs its function.

Impotency *(Loss of Sexual Power)*. Masturbation prevents the excitability of the nervous system and sexual organs and causes debility, which is indicated by the premature discharge of semen during sexual intercourse. These premature emissions indicate not only partial impotency, but also that the nerve-centres have become morbidly sensitive by the practice of solitary vice, or marital excesses. At length the powers of the erectile tissues are diminished, and there is weakness which prevents the act of copulation, or the erection may be slow and not last long enough, on account of a faulty functional condition of the spinal cord.

A Peculiar Form of Impotency is associated with certain abnormal nutritive changes which give rise to a lymphatic or fat condition of the system. Not that the temperament in all these cases is originally lymphatic, but the system degenerates in consequence of nutritive perversion. With the loss of sexual ardor, there is also apathy of mind, loss of manliness, and the victim becomes cold, dispassionate, and treacherous, devoid of any admiration or love for the opposite sex. He acquires rotundity of person, the face is fat, smooth, often beardless, and the voice is feminine.

The victims of this disease represent two distinct classes, viz.: (1) those who are fearfully tormented by the consciousness that they

are losing their virile powers, and become irritable, jealous and often desperate; and (2) those who are completely indifferent to this deprivation.

(1.) Patients of the former class are readily restored to health by proper treatment, for they are willing to make an effort for the recovery of their manly powers. There is not complete loss of sexual desire, yet their disappointment is so great that they may entertain suicidal thoughts. They are moody, fickle, discontented, excitable, and remarkably impulsive. With proper treatment, they regain tone of body, vigor of mind, an increase of sexual desire, and become more attentive to business affairs, and less indifferent to the gentler sex. With the restoration of the general health and the sexual functions, remarkable constitutional changes occur. It is often the case that their intimate friends hardly recognize them by looks or acts.

(2.) It is equally true that those who are wholly indifferent to the loss of virile power, uninterested in the evidences of their manhood, are sometimes incurable. In fact, it is useless to treat the latter class, because they will neither co-operate with the physician, nor persist in the treatment necessary to effect a radical and constitutional change.

Masturbation perverts and finally destroys the secretory functions of the testicles. It sometimes causes chronic inflammation, which may result in obliteration of the minute seminal canals, or obstruction of the conveying ducts. The sperm is imperfectly elaborated and totally unfit for procreative purposes. Sometimes the spermatazoa are entirely absent, and, when present, are very few in number, incomplete in structure, diseased, and deficient in power as well as in organization. Fig. 3 represents the spermatozoa in a healthy condition, and Fig. 4, when they are sickly, deficient and inanimate. The husband may appear to be healthy, and *his* inability to procreate may be erroneously considered a defect in his wife.

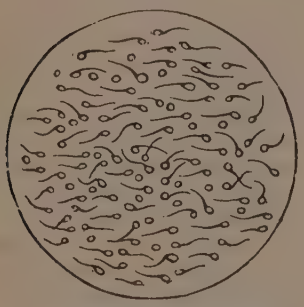
Symptoms of Spermatorrhea. The indications of abuse of the sexual organs are loss of nervous energy, dullness of the mental faculties, and delight in obscene stories. The expression of the face becomes coarse, and the movements slow; the eye is sunken, the face bloated and pale, and the disposition is fretful and irritable; the appetite is capricious, the throat irritated, and the patient makes frequent attempts to clear it, in order to speak distinctly. There are pains in the chest, wakefulness, and during the night lascivious thoughts and desires. The relish for play or labor is gone, and a growing distaste for business is apparent; there is a determination of blood to the head, headache, noises and roaring sounds in the ears, the eyes may be blood-shot and watery, weak or painful, the patient imagines bright spots or flashes passing before them, and there may be partial blindness. There is increasing stolidity of expression, the eye is without sparkle, and the face becomes blotched and animal-like in its expression. The victim is careless of his personal appearance, not

unscrupulously neat, and not unfrequently a rank odor exhales from the body.

There are troublesome sensations, as of itching and crawling, in and about the scrotum. Subsequently, there is obstinate constipation, and all the symptoms of dyspepsia follow. Gradually the pallor deepens, the patient becomes emaciated. There is a shortness of breath, palpitation after even moderate exercise, trembling of the knees, and eruptions on the skin. There may also be cough, hoarseness, stitch in the side, loss of voice. The sleep is not refreshing, the patient has frequent nightmare, or the dreams are lascivious, and the involuntary emissions of semen become more frequent. The weakness increasing, the sufferer experiences a weakness in his legs and staggers like a drunken man, his hands tremble and he stammers.

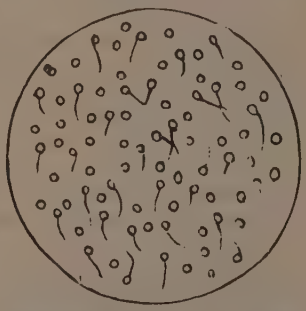
The victim is unable to concentrate his thoughts, cannot remember what he reads, and is mentally indolent. He begins to be suspicious

Fig. 3.



Microscopic appearance of healthy semen.

Fig. 4.



Microscopic appearance of semen which will not fecundate.

of his friends, has less confidence in others, and desires to be alone, is despondent and has suicidal thoughts. He has pain in the back, does not like to walk, and is inclined to lie down. The semen is prematurely discharged upon attempting coition, and if there be offspring, it is apt to be feeble or subject to scrofula, consumption, or convulsions. The genital organs, especially the penis and testicles, diminish in size, as the disease progresses, lose their energy, and the glands of the penis become cold and flaccid. There is frequent desire to urinate, chronic irritation in the neck of the bladder, and pain in the spermatic cord and testicle, and sometimes in the end of the penis. The microscope shows that semen involuntarily discharged may be devoid of spermatozoa, or if present, they are defective, their heads being without tails. The urine is loaded with mucus or bears up a filmy, membranous, transparent matter, or it may be covered with a thin fluid having an oily appearance, but in rare cases is clear. Again, it may

hold substances in solution, which are deposited in crystals or incrust the urine, or it may precipitate a material having the appearance of brick-dust, and sometimes semen tinged with blood. The dyspeptic symptoms when present are followed by diarrhea. The limbs are cramped and rigid, the feet bloated, and the patient becomes melancholy and relinquishes all hope of recovery. As the disease progresses, the patient lacks firmness and is absent-minded.

When the erections are imperfect and the semen is prematurely discharged, or when a lengthy coition is required before the sperm can be ejected, it is evident that the patient is rapidly becoming impotent; the virile powers are vanishing and manhood is surrendering sway to a merciless foe. We frequently witness this condition in men, even at the age of thirty-five, when the summit of vigor and strength should only have been reached. How often are we solicited to restore these lost hopes and powers! To what tales of ignorance and recklessness, or submission and remorse, do we repeatedly listen from these unfortunate sufferers! In patients of this class, sexual intercourse prevents spontaneous emissions, but it does not remove the functional and organic derangements of the nerve-centres; hence, at a time when the victims of this disease should be in the prime of life, they are impotent, and epilepsy, apoplexy, paralysis, softening of the brain, or insanity, frequently results.

Epilepsy (OR FITS). This dread disease is one of the most common and serious complications of the more advanced stages of spermatorrhea. The injury done to the nerve-centres by the practice of masturbation is manifested in epileptic convulsions, more or less frequent. If proper treatment be early adopted, and faithfully pursued, the case is not yet hopeless; though, in the majority of cases, the patient never recovers after the disease assumes this phase.

Paralysis. Paralysis, or Palsy, when occurring as a complication of spermatorrhea, may be preceded by an attack of apoplexy, in which the patient loses consciousness, and lays in a condition of profound stupor for a time, and on recovery from his unconscious state, finds himself unable to use one or more of his limbs, or the disability and loss of power, which may also be accompanied by more or less loss of sensation, may come on gradually, without any premonition or marked manifestation of its approach. In either case, its appearance is to be regarded as a matter of serious importance. Paralysis, when occurring as a consequence of masturbation or sexual excesses, is usually difficult of cure; yet, now and then, cases are cured at our Institutions even after this grave malady has appeared as a complication.

Softening of the Brain. This malady, although less common as a result of masturbation than the complications mentioned in the preceding paragraphs, is of sufficiently frequent occurrence to entitle it to a passing notice here. This condition usually results ultimately in complete dementia, or loss of reason. It is an incurable disease.

Insanity. This deplorable malady is not a very uncommon result of masturbation and its various resultant morbid conditions, as the records of the many institutions for the unfortunate class of sufferers from this disease bear abundant witness. Sometimes it manifests itself in the milder forms of hallucination, or monomania, but in the majority of cases, the patient sinks into a despondent hypochondria, which is many times followed, sooner or later, by a raving mania.

In cases of monomania resulting from masturbation, the mental derangement is often so slight as to escape detection by the patient's friends, the peculiar freaks of disposition being regarded rather as eccentricities of character than as symptoms of serious disease. Fits of despondency are usually common with such sufferers. The mental derangement is not always accompanied or preceded by spermatorrhea or frequent seminal emissions, the injury done to the nervous system by the practice of self-abuse, or sexual excesses, being first noticeable in various phantasms or imaginings on the part of the patient. These are, in different cases, so various, both in character and degree, as not to admit of any classification, each case presenting phases peculiar to itself. In many cases, the patient imagines that his best friends are conspiring to injure him, or that some great calamity is about to befall him. In most cases there is danger of the patient's committing suicide, if not closely watched. Especially is this true of those who suffer from fits of hypochondria.

Except in its milder forms, insanity resulting from masturbation and sexual excesses, is rarely curable.

Don't be Alarmed. A nocturnal seminal emmission now and then, or at long intervals is not, in and of itself, evidence of the existence of spermatorrhea or other serious disease. A full blooded, strong, passionate man, in vigorous health, and who has never abused himself, may now and then, at long intervals, if his sexual passions be not gratified naturally, or if he permit his mind to run much upon lascivious subjects, experience an emission while asleep and dreaming. As to whether such occurrences are evidence of disease or not, in any given case, depends upon their frequency, and as to whether they are the result of a weakness of the organs and are followed by more or less depression and debility, or are merely the overflow of a robust system, or the outburst of restrained, pent-up, and ungratified passions. In the latter case, and when only occurring at long intervals, the emissions are not followed by any perceptible enervating or weakening effects.

Quackery Rampant. This country is flooded with cheap circulars and pamphlets, circulated openly and broad-cast, wherein ignorant, pretentious, blattant quacks endeavor to frighten young men who may never have practiced self-abuse, or been guilty of excesses in any way, and yet who experience, now and then, at long intervals, nocturnal seminal emissions. In such cases, it is the

duty of the conscientious, honest, and sympathetic practitioner of the healing art to give assurance, and not to unnecessarily alarm those who experience nothing inconsistent with a state of fairly good health. To frighten such young men into believing themselves diseased, when in reality they experience nothing but what may occasionally occur in the experiences of any robust, healthy man, is the most detestable, downright quackery.

Treating the Wrong Disease. Not only are many men subjected to useless treatment by general practitioners who overlook the real disease, caused by pernicious youthful habits pursued in solitude, or later excesses in venery, but the female sex are also quite as often subjected to treatment for diseases which do not exist, the real trouble being nervous debility and other weaknesses that have resulted from the youthful pernicious practices common to both sexes, or later excesses in marital pleasures.

Moral Considerations. Masturbation is a habit which tyrannizes over the mind, perverts the imagination, and forces upon the victim venereal desires, even while he is forming the strongest resolutions to reform. It constrains into its service the higher faculties, such as friendship, confidence, love, reason, and imagination, to make its ideal graceful and beautiful.

Sensual Lust. The fancy creates an attractive partner, possessed of girlish beauty, a perfect type of goodness, blended with sexuality, and whom the subject worships with all the ardor of passion. Around this *beau ideal* all his affections are clustered; to her the purest of his blood is offered in sacrifice, and it is no wonder that female associates seem tame and unattractive when such imaginary and consummate divinity is courted. In the sensual delirium is conceived an elysium of carnal bliss, where half-nude nymphs display their charms and invite to sensual enjoyments. Thus we see how this habit makes the spiritual faculties subservient to morbid passion, and by what means elevating influences are prostituted to vulgar and base-born creations.

Symptoms Vary in Different Cases. We can only partially delineate the terrible effects resulting from the abuse of the sexual organs. The symptoms are multitudinous, but, as we have before stated, no two persons are similarly influenced by this disease. The symptoms will vary according to the severity of the affection, the age of the patient, and his constitutional peculiarities. The presence of only a few of the symptoms which we have enumerated is evidence of abnormal weakness, which demands treatment.

Montaigne says: "We must see and get acquainted with our sins if we expect to correct them." Virtue presupposes trials just as much as victory implies warfare. The triumph of virtue is to defeat morbid or excessive passion, for virtue is only realized when it is a conquering force. Innocence is passive, but virtue is an active qual-

ity, purified in the fiery furnace of temptation. As men have in all ages been influenced by passions, so temptation has ever found its victims. It is an obligation that one owes to himself to overcome every evil passion or weakness to which he is subject, and the discharge of this personal duty requires moral courage.

The Reward of Virtue. Our Saviour invited all erring mortals to enter upon a higher life when He said, "Come unto Me, all ye that labor and are heavy laden, and I will give you rest." The invitation is accompanied with a promise. To all who are weary of excess and bowed down by passion, rest and restoration are promised, if they will but reform and employ proper means to that end.

The Sufferers Must Reform. Just as there is no spiritual restoration without obeying the Saviour, so there can be no physical restoration unless we fulfill nature's imposed conditions. There can be no salvation unless sin be discarded, and so there can be no redemption from the bad effects of a practice, so long as it is continued. It is no easy task to master a despotic passion. Appetite is often stronger than the will. The treatment must begin with moral reformation. Every manly impulse, and all the higher qualities of the patient's nature, must be enlisted in the struggle for virtue and health.

If the passions are restrained, then the capital of health increases, for the saving of the vital secretions is equal to compound interest. This illustrates the truth of the Latin proverb: "*No gain is so certain as that which proceeds from the economical use of what you have*"! The patient actually acquires confidence and manly courage by the retention of the seminal fluid, which directly increases his virile powers.

Hygienic Advice to Patients. Daily physical exercise and regular habits must be established. It is important that the mind, as well as the physical powers, be directed into active and wholesome channels. There must be restraint and discipline. It is useless to begin medical treatment while the patient continues to read exciting, amorous stories and obscene books, which are suggestive of lewd thoughts. Something practical ought to occupy the thoughts and engage the hands.

Regular and vigorous physical exercise is necessary to assist the circulation of the blood, and compel its determination into the minute and extreme parts of the vascular system. When the blood is thus directed, nutrition is more vigorous and the activity of all the functions is augmented.

Not only should there be regularity in eating, but sound discretion should be exercised in selecting a plain, wholesome diet, consisting of such articles of food as best favor a daily and free evacuation of the bowels. Avoid the use of those articles of food which produce excessive acidity of the stomach. Hearty or late suppers are not allowable.

The patient should use no alcoholic beverages, and should abstain from such stimulants as tea, coffee, beer, wine, and tobacco. We cannot even recommend their *moderate* use, for total abstinence is the better plan.

The patient should sleep in a well-ventilated room, on a hard bed, and have only sufficient covering for warmth and comfort. He should not lie upon the back, because in this position nightly emissions are more likely to occur. The patient should go to bed when he feels sleepy, and not resist the inclination until wakefulness is induced.

He should rise early in the morning and immediately take a cold hand bath. For this purpose a quart or two of water and a common hand towel only are required. After bathing, rub the surface of the body with the dry hand or a crash towel, and continue the friction until the skin is red and a reaction is established. Do not excuse yourself from following these hygienic suggestions. A refreshing bath changes the morbid sensibilities to a more healthful state by the reaction of the nervous system.

It is beneficial to apply a towel saturated with cold water to the genital organs fifteen minutes before leaving the bed. Douching, or showering the genital organs with cold water once or twice a day will also be beneficial. It should not be practiced, however, just before going to bed. It is well to bathe the head with cold water, and this can be done much better if the hair be kept closely cut.

Horseback riding, climbing, and all exercises which rub, chafe, or excite the genital organs, should be avoided. Even the clothing should be loose, so that walking will not produce friction or cause any excitement of these organs. The calls of nature should receive prompt attention, and the urine be voided at any time (especially during the night) when there is an inclination. If there be irritation of the bladder and lower bowels, the patient will receive decided benefit from the daily use of an injection of cold water into the bowels. From a half pint to a pint of cold water may be used at one time, and the injection should be retained for a few minutes before going to bed. The bowels will thus be relieved, the heat and irritation subdued, and the liability to seminal emissions lessened.

Patients afflicted with spermatorrhea should not allow their thoughts to dwell upon their ailments, for they are apt to become moody, self-deceived, and even insane upon this subject. To avoid this, harmless amusements should be indulged in, and good moral company cultivated. They become suspicious, skeptical, and believe that they are victims of imposture. When they lose self-reliance, their faith and trust in others begins to waver, especially if their health does not improve so rapidly as they had anticipated. As much depends upon the faithful observance of the hygienic rules as upon the constant and proper use of medicines. The rapidity of recovery depends upon the constitutional energies and the vigor of the vital resources. If the

blood be greatly impoverished, or the nervous system much impaired, recovery will be necessarily slow. Time, patience, and perseverance, are just as essential to a recovery from the effects of these abuses as the best medical treatment that can be employed.

The Medical Treatment of Spermatorrhea and Impotency. Few diseases require so many modifications of treatment, to suit the peculiarities of individual cases as spermatorrhea, because it is attended with so many complications and morbid functional and structural changes. Every complication must be considered, and great judgment exercised in the selection of remedies. As this selection must depend upon the peculiarities of the case involved, it is impossible to impart to the non-professional readers sufficient medical knowledge to enable them to choose the appropriate remedies for these intricate disorders. Hence it would be useless to specify the various medicines which our specialists employ in treating them. It would only lead to many fruitless experiments, which might result in great harm to the afflicted. For remedies powerful enough to effect cures of spermatorrhea and impotency are capable, when improperly employed, of doing great harm. Especially should all ready-made, proprietary or put-up medicines, such as are sold in drug stores and chemists' shops, be avoided, for reasons already mentioned. Great harm, also, often results from the employment of "galvanic belts," "galvanic batteries and pads," and other catch-penny devices, with which the too confiding are not only duped and swindled, but terribly injured. They are all worse than useless, and often render the mildest case very difficult to cure by inducing serious complications. It is better to take no medical treatment, but rely solely on the hygienic advice we have given, rather than to resort to any of the so-called "*specifics*" found in the drug shops, or to any such silly, good-for-nothing trash as the various "Pastilles," "Boluses," "Curative Rings," "Voltaic Belts," or other quackish medicines and contrivances.

Importance of Hygienic Discipline. The invalid should restrict his attention to hygiene, and learn that patient endurance and heroic perseverance are necessary, even when taking the most efficient remedies. His entire system having gradually become deranged, corrective medicines must necessarily be *chronic* in their operations; in other words, they must act insensibly, slowly, and progressively. Some of the symptoms of sexual weakness will, under proper hygienic and medical treatment, generally begin to disappear within a month. If the nervous system be very much impaired, however, a longer time will elapse before the restorative effects of treatment will be observed. Neither the physician nor the patient should expect that a broken-down constitution can be immediately repaired. The day of miracles is past. The most rational method of treating the sick promises nothing supernatural, nothing

which is not in accordance with science. Diseases of this character are always slow in their inception, or development and progress, and must be cured in like manner, step by step. Nature never hurries; atom by atom, little by little, she achieves her work.

Our Improved Treatment. Years ago our specialists resolved to pay particular attention to the investigation and treatment of these diseases, which are not only alarmingly prevalent, but sadly neglected and mistreated by the general practitioner of medicine.

Unfailing Remedies. Having successfully treated many thousands of cases, we can safely say of our remedies that they are very positive in their remedial effects. The great success which has attended the employment of these remedies has led us to rely upon them with implicit faith. By their persistent use, spermatorrhea and threatened impotency can be cured as readily as other chronic or lingering diseases. We particularly solicit those cases which have heretofore been regarded as incurable. The patient is subjected to no surgical operation, and he can safely and accurately follow the directions given, while the treatment does not interfere with any ordinary occupation in which he may be engaged. These delicate diseases should not be intrusted to physicians who advertise under fictitious names, or to those of ordinary qualifications. The general practitioner may be thoroughly read in these diseases, but he cannot acquire the skill of a specialist who annually treats thousands of cases, while the former seldom, if ever, has occasion to prescribe for them.

Signs of Improvement When Under Treatment. Under our peculiar and improved system of treatment, gradual improvement in the patient's condition will be manifested. The eye becomes more brilliant and sparkling, the patient is less morose, his digestion improves, he is less listless and despondent, takes more interest in business and other affairs, his sleep is less disturbed and more refreshing, the strength improves, and, if the sexual organs had become wasted in size, weak in function, and flaccid and soft, they begin, by and by, to have more tone and firmness, and to develope and increase in size, as their nutrition is restored, by the checking of the exhausting drain which they have sustained. If nocturnal emissions occur occasionally, the discharge will, under the microscope, be found to be less watery, and to contain increased numbers of *spermatozoa*, with heads and filaments perfect. The patient now begins to gain in self-confidence, courage, and other manly attributes, and, instead of the bashful, retiring, nervous, languid hypochondriac, we see a man of ambition and energy, competent to battle with the adversities of life. Who can estimate the value of such a transformation from nervousness and despondency to vigorous manhood? Who would begrudge all their earthly goods and treasures, when thus afflicted, to be so restored to health and enjoyment; for of

what avail are the greatest riches when health and manhood itself are lost?

Our Terms Business-like and Fair. Occasionally persons solicit us to undertake the cure of these ailments, and, in case of failure, receive no compensation. They write: "If you will *warrant* that your prescriptions will result in a *perfect restoration to health*, we will gladly pay the fees that you ask." The absurdity of such a request is apparent, and therefore we answer: "We cannot *warrant* that you will live even for the next twenty-four hours. We do not bet, play for stakes, or wager our skill for money. Personal responsibility cannot be shifted or evaded, and life and health, with all their momentous considerations, are necessarily individual affairs. Therefore a proposal to make the conditions of health a subject of speculation is a challenge to gamble." The patient may not comply with the specified conditions, and the physician's success depends upon a faithful application of the prescribed treatment. For these reasons only a quack will be a party to any such transaction. Ours is not a trading, hazardously speculative profession. Besides, thousands of our patients reside long distances away and we cannot know of their responsibility or honesty, nor spend time inquiring after their financial standing.

Evidences of the Curability of Spermatorrhea and Impotency. Many individuals afflicted with spermatorrhea and impotency, particularly those who have been swindled by some of the many charlatans who are to be found in nearly every city, are incredulous, and doubt our ability to cure these maladies. Others are skeptical, because their physician, who may be a very skillful general practitioner, but who has had very little or no experience in treating these delicate maladies, has failed to relieve them, and, perhaps, has told them the disease is incurable.

We therefore beg the indulgence of our readers for here offering some indisputable evidence of the extraordinary success which we have achieved, by our peculiar methods of treating these affections, as pursued at the World's Dispensary and Invalids' Hotel and Surgical Institute.

This evidence is introduced for the encouragement of an unfortunate class of invalids, for many of whom existence has ceased to possess any charms. The grateful manifestations which we have received from this class of sufferers have afforded us one of the greatest pleasures of our lives, and have alone been a rich remuneration for the diligent study and arduous labors devoted to the investigation of these diseases and to the perfecting of our peculiar and successful methods of treating them.

Sacredly Confidential. In introducing the following extracts from our extensive files of letters, the names of the writers will be omitted, as we regard all such correspondence, as well as facts communicated to us in personal consultations, as *sacredly confidential.* To

compensate for the omission of signatures, we publish our President's Affidavit as to their genuineness.

Lack of space and fear of wearying the reader, prevent us from introducing more than a few extracts; but these are only fair samples of *thousands* that have been received. Those given, present cases in almost every stage of treatment, some soon after commencing, others further advanced, and still others which are cured. If we could devote the space, and had we time to select them, we could insert an almost unlimited number of those received from patients who have been perfectly cured; but we think the reader will be more interested in expressions coming from patients in all stages of treatment, as they are daily received. Therefore, without regard for literary excellence, we append a number chosen miscellaneously, and given *verbatim*. They express the sentiments of persons in all stages of life, and illustrate the views and feelings generally entertained by those whom we have been called upon to treat.

The following extracts are spontaneous acknowledgments, and are, therefore, more valuable and truthful than if obtained by solicitation, a practice contrary to our sense of propriety, and, hence, one in which we never indulge. Although ofttimes less expressive of satisfaction and gratitude than if the communication were presented in full, yet only sufficient space can be spared for a brief quotation from each letter.

TESTIMONIALS.

CASE 175,827. Impotency, Constipation, and Seminal Loss at Stool and with the Urine.

WORLD'S DISPENSARY MEDICAL ASSOCIATON: *Gentlemen*—Since I have taken the remainder of a third month's treatment that you gave me I have been relieved of my trouble. The emissions have ceased and the losses at stool and in the water have left me. Eighteen months ago I was almost a complete wreck; now I take an interest in business and am in excellent health.

Respectfully, S., Waveland, Ind.

CASE 177,068. Spermatorrhea. Loss of vital strength. Cured with seven months' treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—You have undoubtedly wondered at my long silence. Since last I wrote you there has been a marked change in my life (of which I will speak further on), under your skillful treatment. I improved so rapidly, notwithstanding the many interruptions which misfortune on my part occasioned, that six months ago I considered myself cured. I have been married three months and a half to a worthy woman, who should have gained for herself a husband who never deviated from a virtuous path as much as I; but the attachment formed was so strong that no misfortune seemed powerful enough to sever it. The barrier which seemed insurmountable, and which I had erected myself by early indiscretions and excesses, has given way, thanks to your superior medical knowledge and skillful treatment. Again I can hold up my head and say, "I am a man." I never fail to call the attention of my friends to your Institution as the best in the world, for I have reason to know that it is truly so. I have recommended two friends of mine to you, who are under your treatment, and are getting well. One has tried all the local physicians, and many firms, but with no success. May God bless you, and may your Institution meet with all the success it so richly deserves, is the prayer and wish of one you have saved.

J., Leadville, Colo.

CASE 173,666. Emissions, and Loss of Weight and Strength.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I have had no emissions now for some time, and feel well in every way. I am gaining in strength and weight, and find I shall not need further medical treatment. The four months' medicines that you have sent me have effected a radical regeneration in my health, and I thank you for it. M., Hartford, Conn.

CASE 111,477. Spermatorrhea and Irritable Bladder; cured by two months' treatment.

This was a badly complicated case of spermatorrhea, the patient being also troubled with frequent urination, partial impotency, mucous discharges from the urethra, and a burning sensation in the testicle and groin.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—I took the two months' treatment sent me by you as directed. After taking the first month's treatment the emissions ceased entirely, my appetite increased, and I slept much better. Eight months ago I finished the second month's treatment and have since been in perfect health. I am fully convinced that you do every thing that you promise. I am, gentlemen, yours respectfully,

R., Fort Totten, Dakota.

CASE 266,080. Spermatorrhea. Threatened Impotency. A severe case, cured by six months' treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I have received the last medicine sent me, and have taken all with the best results. I have so improved in health that I think it unnecessary for me to take any more medicine. It is now several days since I took the last of the medicine, and have not had any return of the disease. The desire to masturbate seems to have left me, and I feel well, happy and strong. When I look back to the time before I commenced to take your medicine, the change that has taken place seems wonderful. I had lost all hope of being restored from the ruinous habit I had practiced for many years without knowing how fatal it was to health. I tried hard to stop the practice, but it had grown so strong on me that I would always practice it again, and was fast becoming impotent. Had emissions at night; was nervous, downhearted; and I lost flesh, and felt miserable in many ways too numerous to mention. But now I feel healthy and well. If I had been more careful, and had not stopped treatment so soon before, I might have been cured in four or five months. Nevertheless, I am well satisfied, and thankful that I am restored to health in six months; and I wish to express my sincere thanks to you and your Institution, for I owe my restoration to health and happiness to you. If in the future I need any medical skill, I shall always apply to your Institution, being certain of receiving the best attention. Yours thankfully, S., Pittsburgh, Pa.

CASE 62,365. Very Bad Case of Spermatorrhea and Impotency. Cured with six months' treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—It has now been nine months since I stopped your treatment, and as there has been no return of former symptoms, I judge there can be no doubt as to my cure being permanent. I must confess that, having been duped and swindled by so many previous to visiting you, I had not much confidence when I went to Buffalo to see you. But your specialists, and your Manager, seemed to talk so straightforwardly and without making any of those extravagant promises that I have become so used to, that I became convinced of your skill before I had been long in your wonderful Institution. I think almost any invalid who will visit your Hotel, and see for themselves the wonderful appliances that you have accumulated for the cure of disease, must soon become convinced that if there can be any hope of relief it can be secured there, if anywhere. Before I saw those who told me they had been brought there on beds or couches for hundreds of miles, and that they had not been able to walk for two to four years, and yet with two or three months' treatment were able to go about everywhere, and were about ready to return home. Such experiences as these established my confidence, and to-day I bless the day I first visited the Invalids' Hotel. True, it took six months to cure me, but I presume you seldom have cases to equal in severity the condition I was in when I applied to you. I was so bad, as you will remember, though I do not suppose you rely upon any thing but your records in referring to cases, having so many under treatment at all times,—at all events, if you will turn to the record of my case, which is "File No. 62,365," you will see that I had discharges of semen every time my bowels moved and without erections. In fact, I was completely impotent. I am now as strong and vigorous as any man. You told me it would probably take a year to cure me, but as you accomplished it in five months, though I continued to take medicine a month longer to insure against a relapse, I think myself very fortunate. Should any of your staff have occasion to come this way, I should be only too glad to do any thing I can to entertain them. Gratefully yours,

C., St. Louis, Mo.

CASE 183,998. General Debility. Emissions and Loss of Energy. Urinary Irritation.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—The reason for my not continuing treatment further than the fourth month, is the fact that my health is so much improved that I do not need it. I feel like a new being. All of my bad symptoms are gone, and I feel that I am cured. For eight months my health has continued to improve all the time. I owe you and your staff a debt of gratitude that I can never pay. Yours with thanks,

H., Johnson's Bayou, La.

CASE 152,504. Spermatorrhea.

Mr. S., of Bagwell, Texas, writes as follows: "Language fails to express my gratitude for what your treatment has done for me. I have gained forty-two pounds since coming under your care. My cure is perfect."

CASE 174,628. Spermatorrhea. Extremely bad case. Loss of voice; threatened with Consumption.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I am thankful to say that as a result of eight months' treatment you have given me, the symptoms of my disease have been entirely removed. My voice has got strong and clear, and my breathing is easy and natural. My weight is increased, and in every way I am feeling well. I cannot refrain from penning a few lines.

H., Port Hope, Ont.

CASE 113,274. Spermatorrhea.

Mr. K., of Kalamazoo, Mich., writes: "I feel that you have proven to be the best friend I have on earth. It is about three weeks now since I finished the last month's medicines, and I feel as strong as I ever did in my life. When I commenced taking your medicines I only weighed 155 pounds, but now I weigh 170 pounds. I feel strong and rugged; my step is firm and bold; and I feel altogether a new man, for which I return you my sincere thanks."

CASE 173,399. Emissions. Loss of Weight and Appetite; Dyspepsia.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—I write to let you know that my health is improved, and to thank you for the same. The emissions occur only at intervals of several months, and I do not have any more polluting dreams. I am better in every way. My appetite is improved, and my digestion is perfect. Have gained in weight, and sleep well. I have not required all of the last supply of medicine, the sixth month, and I think I will pull through all right. Please accept my thanks for the benefit effected. D., Valparaiso, Ind.

CASE 45,757. Spermatorrhea.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—Received yours dated Oct. 27th, and am happy to say that I have so far recovered as to believe further treatment unnecessary. I feel like a new man; am able to do a full day's work without pain or laziness. I am very thankful for the benefits I have received through your skill, and should I think it necessary at any time for me to renew the treatment, I will be glad to call on you.

Yours with great respect, A., Zanesville, O.

CASE 175,315. Spermatorrhea; Dizziness and Biliousness; Dyspepsia.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I am in good health, and can say that I am cured. The emissions have stopped, and I have no unnatural discharges, nor dizziness in the head. My health is good in general, and I work hard every day. Physically, I have a good appetite and digestion, which is a great change from what it was when you first treated me. Although I continued the treatment for eight months, owing to the complications and severity of my case, yet I am thankful for the great relief. D., Newport, Ark.

CASE 39,625. Seminal and Nervous Debility.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—My case was one of long standing, and had brought me to think and meditate more of dying a consumptive's death, than living. The ill success I had met in trying to recover my lost manhood, had put me in such a constantly low-spirited condition, that nothing was interesting or pleasurable. I am highly pleased to report the improvement in my condition. My voice, weak and hoarse when I commenced treatment, is now strong and masculine. Hope and self-confidence have returned, and my countenance is firm and resolute. The dull, heavy, pressing pain under my left shoulder, is entirely gone, long ago. The pain and weakness in hips, back, and side, are never felt. I am in every way fully restored to perfect health and manhood. Yours sincerely, O., Sheboygan, Mich.

CASE 67,746. Spermatorrhea. Cured in four months.

[EXTRACT FROM LETTER.]

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—It is with great pleasure that I write you. I have taken but one month's treatment from you, and if I should just give you a full history of my case before and since I have taken your medicine, you would not believe the improvement could be true. I feel better every way. I am without language to express my thanks to you for the great work you have done for me. Your ever true friend,

B., Blountville, Sullivan Co., Tenn.

CASE 22,511. Impotency.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—Accept my thanks for the great benefit received from your treatment. I never thought I could be so fully restored.

G., Peru, Ind.

CASE 450,422. Spermatorrhea, Seminal Debility, Muscular Rheumatism. Cured with six months' treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I am thankful to say that, as the result of the six months' treatment you have given me, that I am cured of my trouble. Since the beginning of the treatment the losses became less and less frequent, and now I am entirely relieved, and desire to return my sincerest thanks to you for the good you have done and the kind attention that you gave me. Sincerely yours,

G., Milverton, Ont.

CASE 48,927. Nervous Debility and Impotency.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—My head is clear and I feel like myself again, and now only wish that the money I spent for useless medicines and experimenting doctors, had at once found its way to you. By recommending you to others suffering as I did, I hope to assist in your honorable work. For my restoration to health and manhood, I am deeply grateful.

Truly yours, B., Philadelphia, Pa.

CASE 154,136. Seminal Weakness.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—I see no further use in continuing your medicines, as I now feel perfectly well and the emissions have stopped entirely. I used to feel dizzy, exhausted, and irritable on arising in the morning, but now I feel nothing of the kind.

Respectfully, K., Johnstown, Pa.

CASE 175,391. Spermatorrhea, with symptoms of Bright's Disease and Torpid Liver.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—When I applied to you for treatment, although a man of apparently perfect health, yet I was subject to an exhausting drain, and felt myself gradually declining in vigor of intellect and constitution. The five months' treatment that you have sent me has effected a very remarkable change in my health. My kidneys (which had troubled me so that I feared Bright's disease) and torpid liver have become natural, and I feel like a new man. The only precaution I now take is not to sleep on my back; and I feel that I am cured. I send you the names of some other patients, and close by saying that I thank you sincerely for the cure, and the great benefit in my health that has resulted from your treatment. M., Manhattan, Kans.

CASE 110,837. Stricture and Spermatorrhea.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—My seminal trouble was cured long since, and I had forgotten it. Your medicines relieved me of that in a short time, and I am satisfied that it will cure the worst cases in a few weeks. I am also satisfied that you and your faculty accomplish more in the healing art than any other in the country, and I cannot say too much in recommendation of your institution. I have tried your institution, and have found your words true in every sense, and take pleasure in authorizing you to use my name in any way to suit yourself. My appetite is good, and I have no pain or trouble whatever. The neuralgia in the lungs, the tough phlegm, weakness, etc., have all disappeared.

A.

CASE 111,571. Spermatorrhea.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—Under the influence of your last course of medicine my health has improved so greatly that I feel any further treatment to be unnecessary. My health is better now than at any other period for years. The night emissions have ceased entirely, I not having had one now for many months. I feel better in every way.

Respectfully, P., Pittsburgh, Pa.

CASE 57,757. Lost Sexual Power Regained.

[EXTRACT FROM LETTER.]

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—While taking your medicine I labored physically. I am cheerful, hopeful, joyous, glad, and grateful for my restoration to sound and vigorous health. My friends daily express surprise at the great change in my personal appearance, and declare that I appear younger than I did fifteen years ago. I always reply that I obtained my new lease of life from the World's Dispensary Medical Association, Buffalo, N. Y.

With sincere gratitude and great respect, I subscribe myself

W., Canyon City, Grant Co., Oregon.

CASE 3,508. Seminal and Nervous Debility of thirty years' standing. Cured in two months.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *My kind Benefactors*—Inclosed find the case of my daughter-in-law, whom I desire you to treat, believing that you can cure her. I feel assured that if you fail in the cure of her case, now so chronic, that no human skill will be of benefit.

Some four or five years ago you treated me for general debility and premature decay, with severe attacks of vertigo. The first month's medicines, which were sent by express, effected a relief of my case. Owing to the long standing of my trouble (twenty-five or thirty years), I concluded to continue the treatment another month. My order was promptly filled by mail. By these two months' treatment I was perfectly cured, my whole system renovated and invigorated. I have been repeatedly asked what I had been doing to cause such an improvement in my personal appearance, and activity, for an old man. With profound gratitude, adding love, I am your obedient servant, W., Rusk, Texas.

CASE 250,336. Spermatorrhea; loss of Strength and Weakness of Memory. Cured with seven months' treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I have not taken any medicine since last December, at which time I had closed the seventh months' treatment. I am happy to say that, as a result, my mind is clear and easy. I am steadily gaining in strength, and feel better than I have for many years, and owe it all to your treatment and advice. I hope you will live long and prosper, and continue to dispense a balm for suffering humanity. I will close by giving your faculty my greatest devotion and sincere thanks, and hope success will crown your business. W., Pickens, Miss.

CASE 82,127. Spermatorrhea.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—Your last month's treatment has entirely cured me. I have been married three weeks and am happy, thanks to your unexampled skill.

R., Blackberry, Kane Co., Ill.

CASE 88,736. Spermatorrhea.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—Sure enough I am well, and I desire to thank you for your medical skill. My strength is very greatly increased, my digestion and appetite are perfect. I sleep well and awake refreshed, and, in fact, feel better every way. My eyesight, which was weak, is wonderfully improved, and my physical condition is now perfect in every way. All the emissions have ceased, Respectfully,

B., Fayette, Howard Co., Mo.

CASE 144,241. Seminal Debility. Cured with four months' treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I am happy to say that your treatment, which I have taken four months, has effected a radical cure of my trouble, and you are at liberty to use my name and address as a reference. Your treatment has effected a cure in my case.

Very truly yours, M., Trout Creek, N. Y.

CASE 71,250. Spermatorrhea of thirteen years' standing.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—I can honestly say, as the result of your treatment, that I feel better now than at any time previous for years. My disease is under complete control, and I have no fear of any further trouble in that direction. In a word, I feel that I am cured and well; and you may rest assured that I shall take great pains to avoid in the future the cause that brought me to my former condition. I am, indeed, thankful to you, as your treatment has made it possible for me to lead a better life, and effectually to resist those passions which so long dominated over me.

I remain, very respectfully yours, H., Council Bluffs, Iowa.

CASE 142,842. Spermatorrhea cured.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—It is with great thankfulness to you that I pen these few lines. I am to-day a strong and healthy man, which I never would have been but for your kind and skillful attention. My health was completely broken down by the effects of self-abuse, and I doctored with other physicians for two years, but with no success. However, after a few months of your treatment I find my health fully restored. I am now in a condition to enjoy the world and take comfort wherever I am; in a word, I am "a man among men." I most cordially invite all persons requiring skillful medical treatment to apply to the World's Dispensary.

M., Fredericville, Mich.

CASE 174,937. Spermatozoa. Threatened with Impotency.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I finished your three months' course of treatment some weeks ago, and am glad to say that I am a well man. A thousand thanks to you. K., Warm Springs, Mont. Ter.

CASE 52,272. Seminal Debility. Loss of Manhood. General weakness from excesses.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—I took your medicines according to directions, and I feel that I am fully restored to health and the enjoyment of my manly powers. My health is better than it has been for years, and is improving all the time. The headache and dizziness have entirely left me. You have my honest recommendations to all sufferers.

Thankfully yours, M., Hudson, N. Y.

CASE 44,573. Impotency.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—As a result of your three months' treatment, I am feeling better than I have for twenty years,—more of a man in every way. S., Prairie Star, Neb.

CASE 56,811. Nervous Debility. Affection of several years' standing, permanently cured by one month's treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—Five years have elapsed since my case was cured by you with one month's treatment. Since that time I have not had the first symptom of the disease. I know I am cured.

Yours with thanks, C., Kalamazoo, Mich.

CASE 175,579. Emissions, Yellow Complexion, Black Heads and Eruptions on the face.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I am happy to say that I have not used all of the last month's medicine. The five months' treatment that I have had from you has effected my entire cure. I have had no losses for many weeks, and my complexion is restored to its natural clearness and purity. The black heads and pimples have all disappeared. K., Neillsville, Wis.

CASE 21,437. Impotency

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—I have, as a result of your treatment, been more of a man than before in six years. I have felt, worked, and eaten better than ever before. My strength is in every way fully restored. C., Jordanville, N. Y.

CASE 38,005. Impotency.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—When I first wrote you I had given up all hope of ever getting well. I had not worked for two years. I had not been under your treatment three months before I went to work, and have been at it ever since. I gain every day. C., Hinsdale, N. H.

CASE 53,578. Spermatorrhea. Great loss of strength and flesh, appetite regular, sometimes ravenous and then very poor. Intellect and memory much enfeebled, the result of losses through the urine.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—The condition of my health is highly satisfactory, thank Heaven and you as the instrument. It has often been a cause of astonishment to me, to think how admirably your medicines controlled my case; it seems wonderful even now. I say, with all my heart, God bless your noble work, for the cure of my disease and perfect restoration of my health and strength. A., Shongo, Allegany Co., N. Y.

CASE 52,920. Spermatorrhea, resulting in Dyspepsia and Heart Disease.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I am gratified to be able to report my cure. My case was a severe one, the insidious drain upon my system producing general debility, attacks of severe palpitation of the heart, and obstinate dyspepsia. Since using your medicines, I have been cured of these troubles. I have no palpitation, digestion good, not easily worried, able to work hard without undue fatigue, strength greatly increased. My weight is now 163. I am thankful to God and to you for the evidence of my final cure.

Yours devotedly, R.

CASE 51,002. Spermatorrhea. Rheumatic pains, general loss of memory, strength, manliness, and intellectual power.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—When I sent to you for medicines, I little expected the remarkable benefit that has resulted. The rheumatic pains that have so long troubled me, ceased within a week. I am now able to attend to my business with my former ability and energy. You have my gratitude for the cure effected in my case.

Very respectfully, P., Bloomington, Ill.

CASE 146,406. Spermatorrhea, with Dyspepsia, Catarrh, and Backache.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I am happy to say that as a result of five months' treatment, the weakness of my urinary and generative organs has been entirely relieved. My catarrh is so much better. The difficulty in the head is now gone, and I have no discomfort. The weakness in the back, and pain in the kidneys, has all left me, and I rest well at night. There are now no unnatural discharges, and I am happy to say that your medicines have effected such a change in my condition that now I continue to improve all the time. D., Medusa, N. Y.

CASE 52,121. Spermatorrhea. Symptoms: Diurnal and nocturnal emissions, loss of sexual power and wasting of the organs, general depression and emaciation. Most severe form of the disease. Cure with three months' treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—I have waited several months and find my cure perfect and permanent. Thanks to you my health and manhood have been perfectly restored, and I am as fat as a bullock.

S., Millbrook, Ont.

CASE 4,100. Spermatorrhea. Entirely broken down.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—Over eight years ago I visited you at your office this present month, very melancholy and thinking perhaps that in six months I would be lying in my cold and silent grave, and now I am strong and healthy. I never was so healthy in my life. Am married, and we have two of the nicest children you ever saw. I am the happiest man in town, and hope to ever be so. My sickness was contracted through ignorance and self-abuse. I am glad to say that I have had a permanent cure, and thank God. I feel grateful to you and thank you kindly.

Yours very truly, L., Barnes' Corners, N. Y.

CASE 52,004. Emissions. Loss of weight, strength, and mental power.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—I received the month's treatment sent for, and took it. It worked like a charm. I have no more emissions, and my weight, energy and strength, are fully restored.

R., Fort Collins, Colo.

CASE 53,859. Spermatorrhea. Five years' standing. Symptoms: Frequent nocturnal emissions, loss of memory, nervous, no energy or strength.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—Pardon me for not sending you a report of my condition before this. Have been waiting to see if there would be any relapse. I am assured that my cure is complete and perfect. None of the symptoms of the disease remain. Your medicines I can recommend as the most powerful and direct to accomplish good I have ever taken. I feel it my duty now to give you my heart-felt acknowledgment for the good done me.

Respectfully, H., Goshen, N. Y.

CASE 38,973. Spermatorreha. Extremely bad case.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—You have cured me sound and well of the terrible effects of early indiscretion. My case was worse than any I have ever read, and I never expected to get well. With eight months' treatment taken at my home, I have been fully restored. You have my sincere and hearty thanks. C., Halifax, N. S.

CASE 70,648. Spermatorrhea and Threatened Impotency.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *My Dear Benefactors*—Please accept my sincere thanks. Words at my command are inadequate to express my feelings when I realize the great beneficial features of your most excellent remedy. I have spoken to several of my most intimate friends who are similarly affected, and after I took the first dose I was completely relieved, and the flesh I gained was in such abundance that I was scarcely identified by them. I gave part of your *par excellence* medicine to a bosom companion of mine, named ——. He became convalescent, but desires another bottle. Write to him at once. Your name will be held in the highest esteem by these invalids, and by

Yours respectfully, H., Cincinnati, Ohio.

CASE 143,838. Spermatorrhea, with Paralysis and Dyspepsia.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Sirs*—Your treatment worked like a charm with me. Before I sent to you I consulted my family doctor, and asked him what he thought of my case. To give you his own words, he said, "J., I think you will be an entire cripple." I then thought I would write to you. I had not taken more than three months' medicine when I was out in the harvest field. I sleep all night, have a good appetite, my back has got well, and I can lay all night. My limbs are stronger, and my nerves are again all right. Upon the whole I am a new man, and my mental powers are much relieved. In eighteen months from the time I placed my case under your treatment, I was better than I had been in ten years, and feel like myself.

Yours truly, J., Peru Mills, Pa.

CASE 93,264. Seminal Weakness.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—Allow me most sincerely to thank you for the great benefit I have derived from your two months' treatment. When I first wrote to you I felt as if my life on earth was short, indeed; but, thank God, through His help and yours, I have been saved from filling an early grave as the results of self-abuse. Before I began treatment I was pale and sickly; I had palpitation of the heart so bad that I often expected to drop dead in the street; I had loss of voice; always felt tired; I had involuntary emissions of semen in the night, which always made me feel weak through the next day; whilst quite often my mind was filled with suicidal thoughts. Such was the price I was compelled to pay for violating the laws of God and nature. Now every thing is changed. I thank you a thousand times, Doctor, for the great good you have done me. May God bless you. I shall always be pleased to recommend your treatment to everybody, and I will cheerfully answer any communication that I may receive in relation to this. W., Lynn, Mass.

CASE 140,948. Spermatorrhea.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Dear Sirs*—I believe myself to be free of the trouble for which you have been treating me. It seems too good to be true, yet I feel satisfied that I am more of a man than ever before in my life. I have not the time nor ability to thank you in the high-flown language peculiar to testimonial writers, but suffice it to say that I am,

Most gratefully yours, S.

CASE 44,464. Nervous Prostration.

This gentleman, engaged as the head of a large academy, suffered severely from mental depression, weakened memory, nervous exhaustion, and lack of intellectual power, the result of the delicate drain upon the nervous system and his severe labors. We append his letter after four months' treatment:

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—My friends all notice and speak of my decided improvement. My health and faculties are again as they were years ago. Yours, H., Philadelphia, Penn'a.

CASE 33,928. Spermatorrhea, resulting in Consumption.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—I would have been beyond the reach of aid now but for your treatment. I am now enjoying perfect health. Yours gratefully, H., Gillie's Hill, Ont.

CASE 42,921. Spermatorrhea, resulting in Dyspepsia and decided loss of strength.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I am deeply indebted to you. The disagreeable head symptoms, dyspepsia and weakness are all gone. I can now eat and digest as hearty a meal as any one, and feel well, healthful and energetic. Never have any losses. I was very sick when I commenced treatment, but was speedily relieved. Yours truly,

S., Charles River Village, Mass.

CASE 44,866. Spermatorrhea, with marked loss of memory, health, and tone of system.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I took treatment of you last summer. The improvement was marked, and I have continued to grow healthier and stronger, notwithstanding I have been busy all the time and have studied very hard. Do not get fatigued as before. I read six orations of CICERO in seven weeks and passed with honor a very close examination. My limbs are solid and strong, whereas before I was weak, and my flesh cold, soft, and clammy. I am in college working hard. Truly, P.

CASE 147,411. Approaching Impotency. Renewed health after five months' treatment.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I can gratefully say I am feeling like a new man since taking your prescription for seminal weakness. While I was in the West two months, my wife received two months' treatment from you, and on my return home, to my greatest satisfaction, her cheeks were as red as roses and her health greatly improved, for which accept our profound thanks. May your honored President live long and do good unto the sons and daughters of afflicted humanity, is our prayer. W., Aral, Va.

CASE 44,198. Nervous Prostration, caused by Self-abuse.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—Your kindness to me I can never forget. I cannot express half my feelings of gratefulness to you. I had despaired of ever getting well. Thanks to your skill I am now a new being.
Yours very truly, B., Steuben County, N. Y.

CASE 53,816. Nervous Debility, caused by Self-abuse.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—My health has improved so that I no longer need treatment. You have my heart-felt thanks for the good you have done me, and may you have as good success in treating the hundreds of others as you have had in mine.
I remain yours very truly, K., Hartford, Conn.

CASE 53,913. Nervous Debility and Impotency.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I shall ever remember you with gratitude. My relief is perfect and permanent. I feel so much better. I remain yours truly, J., Jacksonville, Ill.

CASE 254,484. Spermatorrhea; General Debility.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I am happy to say that your medicines and treatment are always ahead of what they are represented, and I hope you will accept my deep and sincere thanks for the good you have done me. My weakness and debility have entirely disappeared, and I can say that the expense of the six months' treatment I received from you, has been repaid a hundredfold, by the benefits it has effected in my condition.
F., Starkey, N. Y.

CASE 54,803. Nervous Debility and Impotency.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I have taken the last of the medicine which you sent me, and feel satisfied it has entirely cured me. I return my thanks to you for the good you have done me.
F., East Liverpool, Ohio.

CASE 69,116. Seminal Weakness, with Cancerous Testicle.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—It has now been over two years since you treated me and found it necessary to remove one testicle on account of cancerous disease, that must soon have destroyed life had the operation not been performed. I feel myself a strong, healthy man, having had no symptoms of the seminal weakness for months past. Yours,
P., Pittsburgh, Penn'a.

CASE 51,417. Impotency.

I am getting along so well with the medicine that I am a standing wonder to my friends, and I shall not cease, while life lasts, to praise the skill that has brought about such miraculous results. Yours truly,

K., Chillicothe, Ohio.

CASE 67,004. Impotency.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I am only too happy to say that I have fully recovered my powers in every particular since placing myself under your treatment. I would not take $5,000 for the good you have done me. I am only sorry that I did not go to you before wasting time and money on the quacks connected with that "Museum of Anatomy" in New York. T., Philadelphia, Penn'a.

CASE 67,208. Spermatorrhea.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—When placing myself under your treatment, I was told that my case being an exceedingly bad one, it would probably require six months in which to effect a perfect cure. After taking your remedies four months I found myself in perfect health, and have remained so ever since. I cannot express the gratitude I feel for you, and can never half repay the debt of gratitude I owe you. I have given your pamphlet, "Abuse of the Male Generative Organs and the Diseases to which it Gives Rise," to quite a number of young men whom I had reason to suspect it might benefit.

Gratefully yours, T., Norfolk, Virginia.

CASE 67,070. Spermatorrhea.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I have now returned home a new man, after four months' treatment from you. I need no more medicines now. I would urge all suffering to go to you for help. Thanking you for your services, I remain Yours truly,

R., Bunch, Iowa.

CASE 431,637. Impotency, with Nervous Debility and Liver Disease.

This gentleman applied for the relief of the following symptoms: Exhausting and frequent seminal emissions, losses in the urine, want of manly strength, nervous prostration, indigestion, torpid condition of the liver, headache, nausea, and constipation. After a course of five months' treatment he writes:

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I am very grateful to you for the good you have done me, and I feel like a man now. It is sometime since I left off medicine. I have continued to improve, and I feel better than I have for years before treatment. I am happy at the restoration of my health and vigor. I shall recommend you to all sufferers. Hoping you will continue to be successful, I remain, Yours truly, P., Canaan, Conn.

CASE 111,489. Seminal Emissions, Loss of Memory and General Decline.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—Inclosed please find money for my last supply of medicines. You seem to understand my condition thoroughly. My color, appetite, and strength have improved wonderfully, and my sleep is sound, undisturbed and refreshing. Under the influence of your medicines I have completely recovered my mental and physical powers, and I feel that I am able to discontinue further treatment. The emissions have become less and less frequent until now they do not trouble me at all.

I remain, yours truly, H., Eagle Springs, Coryell Co., Tex.

CASE 51,203. Spermatorrhea. Perfect Cure. His letter before treatment, and after.

(First letter.)

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Dear Sirs*—It was my pleasant privilege to read concerning your skill in the treatment of all kinds of diseases, and concerning your reputation, which is most justly merited. Encouraged by these facts to place explicit confidence in you, I beg leave to state my own case as clearly as I may be able. It is as sad as it is fatal if no thorough cure can be effected. I have from my twelfth year onward been practicing, though not excessively, the evil, *self-abuse*. Although I have been led to abandon the pernicious habit for several years, my age being twenty-four, the horrible effects have not disappeared. The serious result is that I am suffering from spermatorrhea. An involuntary discharge of the seminal fluid occurs invariably once, not infrequently twice, every week during sleep. The genital organs have become diminished in

size. I will proceed to state the symptoms which I have been able to observe. They are—disposition to solitude, inaptitude for study, indolence, forgetfulness, melancholy, weakness in the back (especially perceptible after standing), a lack of confidence in my own ability, want of energy, sometimes pain in the chest, elbow, arm, knees, and loins. Uneasy nights, disturbed and highly disagreeable dreams, becoming more and more irritating as the time for the discharge of the seminal fluid draws nearer, also a desire to lie longer in bed in the morning.

Now, dear Doctors, permit me to ask your kind advice as to what means are to be taken. I have tried numerous remedies for more than a year, but to no effect. My suffering grows severer. Please reply as speedily as you may be able. If you be so kind as to honor me with an answer, please state the amount of money needed for your services, which shall be forwarded at once. Please find inclosed one dollar, remuneration for your kind services. Very respectfully,

M., Wheeling, Cook Co., Ill.

(At the close of treatment.)

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—I have finished the eight months' treatment; had I been able to follow the directions more closely, three months' treatment would have effected a permanent cure of my case. Now I am well, body strengthened, mind invigorated, memory revived, energy to work restored, cheerfulness and bright hopes, once altogether lost, are now fully regained. Indeed, I feel like a new being. And now, dear Doctors, in closing our important correspondence, permit me to render my heart-felt thanks for your kindness to me, and for the benefit received from your invaluable treatment. Adieu; may God grant you a long life, that you may benefit many an afflicted one. Very truly yours, M., Wheeling, Cook Co., Ill.

CASE 464,255. Masturbation. Loss of flesh and mental power.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—After three months of your treatment, I find myself cured of one of the worst habits that it has ever been the lot of man to fall into. My whole system is invigorated; I have no more weak back nor legs; no more emissions; my strength is greatly increased, and my weight is more than it has ever been before. The dull, heavy feeling in my head is entirely past, and I can truly say that I feel like a new man. Hoping you will do as much good in the future as you have in the past, is the wish of, Yours truly, B., Holyoke, Mass.

CASE 91,656. Spermatorrhea. Obstinate case of eight years' standing.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—I have taken seven months' treatment from you, and to-day I am a well man. My friends are surprised at the great change which has taken place in me. The emissions have ceased entirely, and I am strong and well. I am a thousand times obliged to you for the good your treatment has done for me.

Respectfully yours, U., Topeka, Kansas.

CASE 461,306. Onanism. Melancholia; contemplated suicide.

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—Having waited several weeks after finishing the last medicine, to see if there would be any relapse, I now send you a report of treatment. I believe I am thoroughly cured, not only of poor health, but of all desire to abuse myself. I have regained health, spirits, and confidence. Am married, something I have long desired, but never before dared to attempt. Please accept my sincere thanks, gentlemen. Your medicine has saved me from a suicide's grave. H., Denver, Col.

CASE 110,838. Seminal Weakness and Fistula in Ano.

A case of anal fistula that had been unsuccessfully treated by Prof. ——, of Nashville, who had operated with the knife. He had also been unsuccessfully treated by several home physicians who stated that his symptoms of spermatorrhea were all that could be described, and more too. The sensations of crawling and itching in the rectum were very severe, and as a result of weakness there was a serious palpitation of the heart, and general debility. The generative organs were unduly excitable and weak. He complained of weakness in the rectum and loins, with irregularity of the bowels, trembling and weakness of the entire system. There was profuse discharge from the fistula and also from the urethra. We undertook his case without making any promises of a radical cure, as it seemed that the disease had progressed so that it would be impossible to effect more than satisfactory improvement in his general condition, and a palliation of the symptoms of disease. At the end of seven months' treatment he writes as follows:

WORLD'S DISPENSARY MEDICAL ASSOCIATION: *Gentlemen*—The result of the

treatment you have sent me is a permanent cure of the fistula beyond a doubt, and in a magical manner. My heart is very much improved, so that it does not trouble me in the least. My health is perfect in every way. It is unnecessary for me to order any more medicines, but should I think at any time that a little is required to keep me in good health, I will order at once. I think that I am entirely through with the fistula and sympathetic weakness, and I can truly say that your remedies delivered me from the jaws of death. With sincere thanks to you, I am, yours for ever. D.

CASE 140,056. Spermatorrhea.

The following long-standing and aggravated case of seminal debility began to yield at once under the specific influence of our medicines. Frequent nocturnal emissions were present, and the semen also passed off, unobserved and unsuspected, in the urine; of course a ceaseless vital drain of this character began quickly and profoundly to impress the constitution, so that when the patient under consideration applied to us for relief, the most unmistakable symptoms of commencing organic disease of the heart and lungs had plainly declared themselves to be present. Like many hundreds of similar cases which we cure annually, the disease yielded promptly and perfectly to the well-directed efforts of our specialist in this important branch of practice; indeed, so easy, swift and perfect was the cure that the patient failed to realize the necessity of continuing the treatment a few weeks in order to insure himself against the possibility of a relapse, and discontinued his correspondence with us, whereas it is in precisely such cases that we recommend the treatment to be not too abruptly discontinued.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—Your kind favor, thoughtfully inquiring after my health, came duly to hand. In answer, permit me to say that it was not my intention to take further treatment as I considered my cure to be perfect, all local and general symptoms having wholly subsided before I had finished the month's course, and thus far manifesting no disposition to return. However, in the light of your wisdom and experience, I have reconsidered the matter and now believe with you that another month's course of treatment is advisable, in order effectually to guard against the possibility of a relapse. I accordingly inclose you the price of the additional month's course. The second morning after commencing the use of your medicines I awoke refreshed in body and mind, and this experience has been repeated every morning since. The emissions were arrested at once, and I have not had a single unnatural discharge since, except once when I experienced a slight nocturnal emission, which, however, was followed by no depressing after-effects, but altogether the reverse. I feel so much stronger and better in all respects that it is a positive pleasure for me to do a hard day's work now.

Respectfully, B., Crystal Lake, Wis.

CASE 86,291.

This gentleman had suffered during eleven years from seminal weakness as the result of indiscretions in youth; nocturnal emissions were present, and there was also a seminal loss with the urine, and at stool; the patient's memory was greatly impaired and his mind otherwise affected from the vital drain; he was dyspeptic, his bowels were costive, and threatening symptoms of consumption had already begun to manifest themselves when he came under our care. Two months of our special treatment, at the patient's home, effected a perfect and permanent cure, and completely arrested all abnormal seminal losses. The following grateful letter is from the gentleman in question:

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.: *Gentlemen*—Permit me to say that, six months after having discontinued your treatment, my cure remains perfect. This great permanent and enduring benefit was secured to me through only two months of your skillful treatment and careful management of my case. Your medicines had a wonderful control over my disease, driving away its terrible symptoms as if by magic; they imparted to me a new power, filled my body and mind with unusual vigor, and transformed me from one racked with pain and living death or worse, to a full measure of health and happiness. I feel that if I had not been opportunely and successfully treated by you, that my life would have been permanently blighted, and that the happy and contented mind that now inspires these lines would ere this have been dethroned of reason. I feel that you have been my saviour. I have not had a single nocturnal emission since leaving your treatment, six months ago. Thanking you, gentlemen, from the depths of a grateful heart, I remain,

Your obedient servant, G., Cayuta, Schuyler Co., N. Y.

Did the interest of our readers demand it, we could add to the preceding list an almost endless number of extracts from letters written by grateful patients, expressing their heart-felt thanks for having been

cured of spermatorrhea and impotency by our treatment. But we have we trust given sufficient to illustrate our great success in dealing with these maladies.

A Caution to the Afflicted. We are daily consulted by persons suffering from spermatorrhea and impotency who have been victimized by ignorant charlatans. Some seek to dupe and swindle the unwary by claiming to have themselves been cured of spermatorrhea or impotency by some prescription, which they offer to send free to any sufferer. When the prescription is obtained it is found to consist of a few articles well-known to every druggist, coupled with certain arbitrary and fictitious terms, unknown to everybody and not to be found in any medical work extant. Following the prescription is a modest suggestion that if it cannot be filled by the home druggist, the benevolently-disposed party furnishing the prescription will be pleased to send the medicine, already prepared, for from three to five dollars. Of course, the whole scheme from beginning to end being a swindle, when the "medicine" is obtained and taken it proves entirely useless. Skill and genuine merit do not go begging. Men who spend hundreds of dollars for the publication of advertisements offering to give away valuable information can always be safely set down as swindlers.

In the public prints will be found advertised various ready prepared, "put-up," or proprietary, so-called "remedies," "Specifics," "Boluses," "Pastiles," "Rectal Pearls," "Urethral Crayons," "Voltaic Belts," "Galvanic Belts," "Batteries," and "Pads," all recommended as infallible remedies for spermatorrhea and impotency.

A vast experience in the treatment of these affections has satisfied us that each case must be studied and treated according to the symptoms manifested, and that medicines that are adapted to one stage of the disease are entirely unsuited to other stages of the same case. No "Pad" or "Battery and Pad," "Galvanic" or "Voltaic Belts," "Battery," "Bolus," or "Soluble Crayon," ever did or can help a case of this disease, except it be in the imagination. Although the proprietors of the most popular proprietary medicines in the market, medicines carefully adapted to the cure of the diseases for which they are recommended, yet, should we attempt to get up a general remedy to cure spermatorrhea and kindred maladies, we are certain it would be an utter failure, and this is entirely true of all such preparations now and heretofore offered for sale, and, from the very nature of the diseases they are recommended to cure, ever must be. Each case must have medicines carefully prepared to meet the conditions present, and when these conditions, from the effects of treatment or other causes, change, the treatment must be varied accordingly.

Positive Injury instead of benefit often results from the employment of some of the nostrums advertised for the cure of spermatorrhea, impotency and kindred affections. Especially have we found that the use of "Soluble Urethral Crayons," "Boluses," "Pastiles,"

and kindred contrivances, which are so extensively advertised, are exceedingly injurious, and often render otherwise moderate and simple cases, complicated and incurable.

Although of pretended French origin, they are evidently the invention of an ignoramus, who knows nothing of the delicate anatomy of the generative organs or of the proper treatment of the diseases incident thereto, for none other would have thought of such a preposterous plan of treatment. No man should insert such absurdly devised and mischief breeding contrivances into his urethra (urinary canal), for thereby he is almost sure to do himself a permanent injury. So far from having been invented by an eminent French surgeon, as claimed, such treatment is entirely unknown in France, and ever has been, as the writer well knows from personal observation and enquiry while sojourning in that country and visiting its most noted hospitals and medical institutions.

All the various "Troches," "Boluses," "Wafers," "Suppositories," "Pearls," "Rectal Pearls," "Rectal Capsules," and other contrivances which are recommended for the cure of Spermatorrhea and kindred weaknesses, and which are designed to be employed by inserting them into the lower bowel (rectum), and there permitting them to dissolve, are only so many irrational and filthy devices for duping the ignorant and innocent sufferers from these maladies.

An Alluring Swindle. A still more enticing, and hence more dangerous, device for swindling unfortunate sufferers, is the widely advertised "Vacuum Treatment" or "appliance" so loudly and plausibly recommended for "Developing weak and wasted organs." A simple, little, brass air pump, connected with a glass tube, or cylinder, fitted with a valve at one end, which costs not to exceed one dollar and a half, is the worthless device palmed off on the confiding ones *at from fifteen to thirty dollars.* This is done under the *false pretense* that its daily use to pump blood into the weak or wasted organs, will cause their development and growth.

Thousands have invested their hard earned cash in this worse than worthless, injurious, contrivance. In fact the head of the concern putting out this alluring device is said to have amassed a fortune out of the nefarious business.

So far from benefiting any one, out of several hundreds of cases that have come under our personal observation, in which this apparatus has been faithfully used for a long period of time, we have never met with a single case that had derived the slightest benefit therefrom. On the contrary, we have been called upon to examine many who had been *seriously injured* by its use.

The sudden congestion or filling and over-distention of the delicate blood-vessels of the organ operated upon, caused by placing it in a vacuum, is liable to rupture these minute vessels, causing the infiltration of blood into the tissues and giving rise to inflammation, and in some cases, to *suppuration*, *mortification*, *sloughing* and *death*.

In other cases, the blood-vessels of the organ and adjacent parts are so weakened by the *strain* put upon them as to induce varicocele and other diseased conditions. In spermatorrhea, it is the worst possible thing that can be applied, for by forcing an undue amount of blood into the part the sensitiveness of the organ is increased, irritation is set up in the deep urethra, and the emissions are increased in frequency. In this, and other ways, hundreds of men but slightly out of health have been permanently injured.

But this is only a small part of the story connected with the reprehensible business of palming off "The Vacuum Developing and Strengthening Appliance." The precious rascals, not content with making from a thousand to fifteen hundred per cent. profit on the miserable device furnished, while advertising fifteen dollars ($15.00) as the price of the "appliance" and "accompanying preparations," for "*ordinary cases*," make a general practice, when they have secured the fifteen dollars ($15.00), of sending it by express *with a bill to be collected on delivery* FOR FIFTEEN DOLLARS ($15.00) MORE. With this bill they send an explanation, that "on re-examining the case" they "found it necessary, or thought it advisable, to send their stronger and more expensive preparations and appliances *for the worst cases* AND SO HAVE CHARGED FIFTEEN DOLLARS ($15.00) MORE TO COVER THE EXTRA EXPENSE."

It is astonishing that there are those who can be induced to part with their money for such claptrap devices, and still more so that having been duped and swindled out of their hard earned money through false pretenses and promises of benefit held out to them, they should submit quietly to such extortion and not have the swindlers arrested and prosecuted for obtaining money under false pretenses as they richly deserve. For what crime can be more deserving of punishment than the holding out of false hopes and pretenses to the unfortunate? Employing the United States mails for swindling is a pretty dangerous business, and sooner or later these rascals will, we predict, find it out to their sorrow. They are pretty sure to get hold of some men, ere long, who will invoke the aid of the United States District Attorney to bring them to justice.

Young Man, if you have, through ignorance, fallen into practices that have arrested your physical growth and development in any of your organs or parts, shun all such unscientific and worse than worthless contrivances as you would shun a pestilence. No matter how plausible the web of arguments woven to entrap you, be assured, they are the utterance of knaves who care not what false hopes they encourage so they secure your money.

Consult only those whose well known skill, experience and integrity will insure honest dealings and the most scientific treatment known to the "healing art," and who supply the latter at reasonable cost.

Be assured also, that when, through proper treatment, your weakness and functional derangements are overcome, the parts that have suffered

therefrom, will regain all the strength and development possible to impart to them through the aid of the physician's skill. Nature often accomplishes wonders in this direction, when aided by the skillful practitioner.

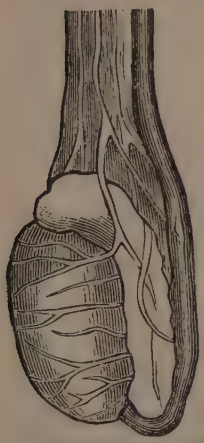
VARICOCELE;

OR, ENLARGED VEINS OF THE SCROTUM SOMETIMES CALLED FALSE RUPTURE.

Probably no affection of the generative organs has been given more attention by surgeons than this. Its great frequency, being present in about one-third of all cases of spermatorrhœa, and its disposition to result in impotency and wasting away of the testicles, bring it constantly before the profession.

Causes.—Varicocele commonly results from long continued fatiguing exercise, in the upright position, heavy lifting, jumping, straining, severe constipation, injuries from horse-back riding, bicycle riding, especially the latter, or any obstruction or obstacle to the free return of blood through the spermatic veins. Self abuse and excessive sexual indulgence are also prolific causes of varicocele.

Fig. 1.



A Healthy Testicle.

Fig. 2.

Testicle wasted from Varicocele. The enlarged and tortuous veins are shown to be about as large as the testicle.

When the spermatic veins are overdistended to such an extent that their tonicity is impaired, they gradually lose their capacity for transmitting the blood, and a slowly increasing enlargement and tortuosity of veins results. This goes on, becoming steadily more marked, until the pressure of the engorged vessels upon the spermatic cord impedes the full circulation of blood in the testicle and causes a wasting and softening of this gland. A loss of sexual power and increasing weakness of the generative organs generally follow this gradual destruction of the testicle, and sometimes total and incurable impotency results.

This affection is also designated by the terms *circocele* and *spermatocele*. It consists of an enlargement or varicose condition of the veins of the scrotum or spermatic cord, and affects the left side more frequently than the right. This is due to the fact that the spermatic veins of that side are longer, more dependent and tortuous, and, consequently, support a greater column of blood than the other side The enlarged veins feel like a bundle of earth-worms. The knotty and

tortuous vessels sometimes form quite a large tumor, which is, however, but rarely sensitive to the touch, yet sometimes causes a feeling of weight in the scrotum and loins, and sometimes produces a sensation of numbness in the thighs.

When varicocele of an aggravated or largely developed type is present, associated with any weakness of the generative organs, as spermatorrhea or impotency, it must be cured before the organs can regain a healthy condition, as by the constant pressure of the abnormal quantity of blood and enlarged veins upon the spermatic cord, arteries, and testicles, the irritability, weakness, and wasting, are increased. The use of suspensory bandages, with strongly astringent lotions, will, in mild cases, produce relief and many times cure. Except in the worst cases, it is well to try these means before resort is had to operative surgical treatment, unless the patient is anxious to be cured in a more speedy manner. The treatment by suspensory bandage and lotions is necessarily somewhat slow in producing remedial results; yet, many quite well marked cases have, in our experience, been cured by such means perseveringly applied. Although many who have been unable to come to us for an operation, have been cured by suspensory bandages and our improved lotions applied to the affected parts, in all cases in which the veins are very much enlarged, we recommend the sufferers to come here and undergo our surgical treatment, which is painless in its execution and radical in its results.

Fig. 3.

Well developed Varicocele.

It has been recognized by physicians and surgeons for over a century, that in bad cases of varicocele a cure can only be certainly and permanently effected by operation. Many have been the methods of operation advanced by the prominent surgeons of every age, but all have met with such an alarming mortality, that they have been one by one abandoned, except as a last resort in extremely bad cases. A late author gives the percentage of deaths from the various old operations, now in general use throughout this country and Europe, as varying from seven to fifteen per cent. of all cases. In contrast to this, we point with pride to our records, by which we are shown to have operated upon over a thousand cases by our original method, obtaining in each and every instance a perfect cure, without a single alarming symptom or a death ensuing. This we think is sufficient evidence of

the perfect safety of the operation and its superiority over every other method. To every sufferer with the disease, we would recommend it as a positive means of securing a permanent cure. Various worse than useless devices are advertised by quacks, who, as a class, are afraid to undertake surgical treatment for the cure of varicocele. One has what he calls a "varix clamp," or "clasp," to be worn upon the enlarged veins. Many "compressors" and other equally useless devices are advertised and sold for the same purpose. These are not only perfectly worthless, but positively dangerous in their application. The pressure they make upon the spermatic cord, nerves, and artery, is very apt to result in impotency and a rapid wasting away of the testicles. Patients should avoid all the catch-penny devices recommended for varicocele, as none of them are worth a moment's consideration.

Even a moderate degree of morbid enlargement of the spermatic veins will sometimes cause such engorgement and obstruction to the free circulation of the blood in the testicle, as to cause gradual wasting or shriveling of that organ. In some cases the morbid condition will give rise to seminal weakness, or spermatorrhœa. Many of these cases that can only be cured by surgery, are trifled with by quacks, who attribute the spermatorrhœa, or loss of semen, to everything else than its true cause—varicocele.

To illustrate, Mr. B., of Colorodo, applied at the Invalids' Hotel and Surgical Institute, a few years ago, and said he had for five years been troubled with nightly emissions of semen and his testicles were gradually wasting away. He had been under the treatment of men making great pretensions as specialists, to whom he had paid several hundred dollars in the vain hope of getting cured of spermatorrhœa. They treated him with medicines only, and did him no good whatever. On examination, we found a very varicose or enlarged condition of the left spermatic veins, and gave it as our opinion that the seminal loss was wholly due to this abnormal condition and could only be cured by an operation that would remove the varicocele. The operation was promptly performed. In two days he was able to leave his bed, and in a week started home to Colorado. Some months thereafter we received a letter from him wherein he said: "The enlarged veins continued to absorb and grow less and less, until, in a few weeks' time, all unnatural enlargement had disappeared. With a steady improvement in the condition of the veins, I experienced corresponding improvement in my general health, and the seminal losses grew less and less, and finally, long ago, disappeared entirely. I feel that my manhood, with all the powers that should belong thereto. are mine to enjoy. In other words, my restoration to health is complete. Had I saved the large amount of money that I fooled away on those quacks, and given it all to you, I feel that you would then have been only fairly paid for the great good you have done me."

The foregoing is but a fair sample of letters that we are almost con-

stantly receiving from those who have pursued useless treatment for spermatorrhœa, dependent upon varicocele, and have been speedily cured by our never-failing operation for this malady. Among the great variety of operations in surgery for various diseased conditions, performed by our surgeons, none have been attended with more uniform satisfaction, and perfect success, than has our operation for varicocele.

A PAINLESS OPERATION.

By the injection of a few drops of a medicated solution under the skin, at the point where the incision is to be made, we are now able to produce such complete local anæsthesia as to render the operation *entirely painless* without the administration of either chloroform or ether. This is an important consideration, as many are averse to taking chloroform or ether, and now that we are possessed of an agent that produces, locally, *complete insensibility to pain*, we are very glad to be able to dispense with their use in all such minor operations. Many examinations heretofore very painful, as of the bladder for stone, and of the deep urethra for strictures, are now rendered *entirely painless* by the use of this wonderful agent.

A great variety of surgical operations are now performed by our surgeon specialists, without any suffering on the part of our patients, by the local use of an anæsthetic solution injected into the parts to be operated upon. Formerly we were obliged either to administer chloroform or ether, or subject our patients to a great deal of suffering. Our specialists were among the first surgeons in this country to employ local anæsthesia successfully. We regard it as a great boon to our patients, and never withhold it in any case where it can be employed to prevent suffering, its use being attended with no danger and followed by no bad or disagreeable results.

OUR PAINLESS OPERATION.

Having operated with unvarying success, during the past twenty-five years, upon several thousand cases of varicocele, at the Invalids' Hotel and Surgical Institute, we now invite special attention to the results of our peculiar operation, which is neither severe nor dangerous, and from which the patient makes a much more rapid, and in every respect more satisfactory, recovery than from other operations in use by surgeons generally. In our practice we have never failed to secure the happiest results from our operation. The saving of time is also of importance to the laboring man as well as to the millionaire. Instead of being confined to his bed for ten to twenty days, and to his room for a month or more, as is the case following other operations, the patient is not confined to bed at all, and can generally return home in a week or ten days at the longest. The only precaution necessary is

that he should, for a reasonable time after the operation, wear a well-fitting suspensory bandage. This can, in a little time, be entirely dispensed with. When we contrast these results with those obtained from ligation, graduated pressure by "clamps," suture pins, or the slicing off of a part of the scrotum, and suturing, or stitching, the wide gaping wound so caused, as is practiced to-day by other surgeons, the marked superiority of the results obtained, through our superior method of operating on this affection, must be apparent.

A very large part of those cured by our treatment have previously spent far more money for worthless "electric suspensories," "equable scrotal compressors," "scrotal clamps," various "rings," and other "jim cracks," than was paid us *for a radical and permanent cure.* Some of these instruments are so formidable as to suggest the racks and thumbscrews of the middle ages. Such useless appliances often weaken the scrotal muscles by the unnatural compression which they produce and make the discomfort far worse when they are discontinued than before their use.

For such cases as cannot come to us at once for an immediate and *perfect cure*, we have a common sense method of treatment, comparatively inexpensive, that gives relief and comfort in all cases, and in mild cases often effects a complete cure. This treatment leaves the scrotum and its contents in an improved, strengthened and more healthful state.

TESTIMONIALS.

If the following letters had been written by your nearest, most respected and trustworthy neighbors, they could not be entitled to more confidence than they now are, coming, as they do, from intelligent citizens, each one of whom, in his own neighborhood, enjoys the full confidence of all his acquaintances. These letters are taken at random from among hundreds of similar ones, received from former patients of ours, residing in all parts of the United States and Canada, and if it would add anything to the endorsement in the way of giving greater confidence in our ability to treat successfully the malady under consideration, we could multiply the letters which we here introduce many times over. To publish more, however, would seem to be tedious repetition, for there necessarily must be a sameness in all such letters testifying to our skill, and we must, therefore, be content to rest our case with the limited number of endorsements which we have room for only in this book.

VARICOCELE.

A Perfectly Painless Operation. Patient Smokes a Cigar and Talks with the Surgeons While Operation is Being Performed.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

A. J. SETH, ESQ.

Gentlemen—I suffered with varicocele at the age of nine years, caused by a fall, and doctored for same about fifteen years, and obtained no relief. Renowned surgeons of Pittsburgh, New York, and other cities pronounced my case incurable.

I heard of the Invalids' Hotel, No. 663 Main Street, Buffalo, N. Y., and entered it as a last resource. On the third day after entering the Institution I was treated, and during the operation (which was a painless one), I smoked a cigar and talked with the operating surgeons, feeling *no pain whatever*. I remained in the Hotel one week, and during that time I never once was unable to walk to the elevator and have my meals in the dining room. The tables were laden with the best the country can produce. It is truly "The Invalids' Hotel" (or rather *home*), as the clerks and nurses are very kind, attentive and social.

Will add, that I am permanently cured, and advise any person thus afflicted not to hesitate entering the Invalids' Hotel for treatment.

Respectfully, A. J. SETH,
Lucinda, Clarion Co., Penna.

VARICOCELE.

Fair View, Sanpete Co., Utah.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I feel it my duty to thank you for the benefit I received at your Institution during the month of December, 1892.

I was afflicted with varicocele on the left side, which caused me a great deal of trouble and almost made me feel at times that I did not want to live any longer if I could not be restored to soundness again. Hearing of your skill in the treatment of varicocele I determined to give you a trial, which I accordingly did, and with gratifying results for now I am as sound and well as a gold dollar.

W. F. PETTS, ESQ.

The operation which was performed on me at your Institution for the permanent cure of varicocele was, to my great surprise, entirely painless and performed in a much briefer time than I expected. I only remained at your noble Institution ten days after the operation, at the end of which time I returned to my home at Chatham Hill, Smyth Co., Va. When I got home I experienced very little soreness from the operation and I felt that I could enjoy life fully. About six months after, I got married and came to Utah where I now reside, and I am very much pleased to say that I am now as sound and well as ever, and very happy in my married state.

When I went to your Institution I was surprised to see such a great number of young men from almost every State in the Union, who had come there to be operated upon for varicocele; and they all told me that the operation was painless to them, as it also was to me, and they said they were fast improving and were glad they had come there for treatment. I never experienced such great and unprecedented kindness as I did during the ten days I was at the "Invalids' Hotel." I had an excellent room—well furnished, plenty to eat, and was treated with the kindness of a mother by the nurses and attending physician.

I advise all who are afflicted with varicocele to go to your Institution at once for an operation, which I assure them they will never regret. Trusting that those who require an operation of any kind, or who are afflicted in any way, may go to your Institution and be restored to health, and again thanking you for my restoration to health and your great kindness and good treatment of me while I was with you, I remain, Yours very truly,

William F. Petts

P. S.—My sister's life was saved by your "Favorite Prescription." W. F. P.

VARICOCELE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—It is with great pleasure I recommend those suffering from varicocele to your skillful hands. I suffered with varicocele for seven years, caused by standing behind the counter at business from seven in the morning until ten and twelve o'clock at night.

A. EBSARY, ESQ.

In 1888 a friend gave me a copy of your Common Sense Medical Adviser. After perusing its pages I was convinced of the genuineness of its doctrine. I immediately started for Buffalo—a distance of 1,900 miles.

During my stay of ten days at your Institution I was treated with the utmost kindness by the nurses and surgeons, all of whom are expert specialists.

The equipment of the Institution is something immense. I often think of the appetite those healthy exercises in the treatment room gave me when dinner time came.

After being in the Institution three days I underwent an operation for varicocele—an injection of medicine locally making the operation *absolutely free from pain*. The operation was performed in about thirty minutes, immediately after which I could walk to my room, and, after resting an hour, descended to the dining room and took my dinner as usual.

While at the Institution I met numerous persons suffering from varicocele, and it was quite pleasing to contrast their happy looks as they wished you "good-bye" with the haggard appearance they had upon entering.

After leaving the Institution I traveled about 1,400 miles by rail and 500 miles by water without the least inconvenience, which I consider a fair test of the operation.

Five years have passed since that time, and I now feel as sound as it is possible to feel.

In conclusion, let me say to those suffering from varicocele that it is impossible for them to do better than follow my example.

Respectfully yours, A. EBSARY,
St. John's, Newfoundland.

VARICOCELE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I am a carpenter and some years ago, I fell from a scaffold which in time almost killed me. I wasn't hurt very much at the time, but a dull aching pain seemed to take me in the left side of the scrotum, and after I could stand it no longer, I went to my doctor. He said that I had a rupture of the blood veins of the left testicle, and it was incurable. I gave up in despair; but at last, a friend handed me some of your advertising papers, and I saw the Common Sense Medical Adviser advertised and sent for the book and studied its contents carefully, and came to the conclusion that I was suffering from varicocele. I found on consulting you that my suspicions were right. I at once wrote you for particulars, and in less than a week I was at the Invalids' Hotel for treatment. At that time no one knows how I suffered; but I hadn't long to suffer. In ten days after *an entirely painless operation* I was a well man and returned home.

F. H. JENKINS, ESQ.

I cannot say too much in regard to the treatment and care from both Surgeons and Nurses. Nothing was left undone to promote comfort and good care. It is the only place on earth that I would feel safe to trust my life for a severe operation. There were, I think, over 100 patients at the Invalids' Hotel and Surgical Institute, at the time I was there, and as I had a good chance to be with them, I found that they were all doing remarkably well.

At the date of my operation which was the 7th of March, 1893, I weighed just 165 pounds; to-day I weigh 189. I have gained in health, strength and vigor every day, I believe.

I would just say, in conclusion, that I can give my word as an honest man to any sufferer that I believe he can be cured of almost any chronic malady at the Invalids' Hotel and Surgical Institute. Respectfully yours,

F. H. JENKINS,
(Box 13), Ascot Corner, Sherbrooke Co., P. Q., Canada.

R. C. MARTIN, ESQ.

VARICOCELE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Having been operated upon at the Invalids' Hotel and Surgical Institute, Buffalo, N. Y., for the radical cure of a varicocele of the left side from which I had suffered for four years, I take pleasure in certifying to the speedy and certain relief afforded me, and the painless nature of the operation, as performed by the surgeons of the World's Dispensary Medical Association. Fourteen days from the time of the operation I returned home cured, and went to work. I desire to express my thanks to the Medical Staff for their skill and attention. I met several patients while at the Sanitarium, and they all reported as getting along favorably and well. Respectfully,

R. C. MARTIN,
Gambril, Scott Co., Iowa.

VARICOCELE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I can heartily say that the operation was a great success. I had rupture of the veins, or Varicocele, ten years. I never thought that I could be cured so easily. The operation was entirely painless, and I was only nine days away from home. I am now as well as ever and I recommend the Invalids' Hotel and Surgical Institute to any one who is suffering from any chronic disease. Yours,

CHARLES DOVE,
33 John St., Wilkes Barre, Pa.

CHAS. DOVE, ESQ.

J. F. SINGREY, ESQ.

VARICOCELE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I was successfully treated for varicocele at the Invalids' Hotel. The operation was made painless by local application, previously applied, which made the parts insensible, and I returned home the ninth day. While there I met with patients from all parts of the country, and all spoke in the highest terms of the treatment received from the surgeons and nurses and all connected with the Institution.

Yours respectfully, J. F. SINGREY,
Maryville, Nodaway Co., Mo.

VARICOCELE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I feel very thankful to the Association for the benefit received—due to an operation performed for the cure of a varicocele of many years' standing. All traces of the disease have disappeared. I was surprised to know that so little pain was connected with the operation.

Will say to those who think of visiting the Invalids' Hotel, that they will be treated well, and their visit will be made as pleasant as possible during their stay.

Yours respectfully,

HENRY P. SMITH,
Warren, Huntington Co., Ind,

H. P. SMITH, ESQ.

VARICOCELE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

G. R. SOUTHERN, ESQ.

Gentlemen—Having been operated upon at the Invalids' Hotel and Surgical Institute, Buffalo, N. Y., for varicocele of ten years' standing, I take pleasure in certifying to a speedy and perfect cure. The operation was made painless by local applications previously applied, which made the parts insensible to such a degree that the operation was performed without any suffering on my part. Time of stay, after operation, was ten days. I cannot speak too highly of the care and attention I received from the surgeons and nurses while there; everything that was provided was of the best—the best of food, clean apartments and pleasant rooms.

I would recommend your Institution to any one suffering from any kind of chronic or surgical disease; and if they will only go to your Institution, they will meet with patients cured and others on the way to recovery from the same difficulty they have themselves—no matter what it is, if curable at all. I wish you success.

Yours truly, GEORGE R. SOUTHERN,
Morris, Otsego Co., N. Y.

VARICOCELE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—It is with pleasure that I certify to the success of the operation performed upon me for varicocele at your Institution some months ago. This operation was performed by one of your specialists in a skillful and painless manner.

I found the Invalids' Hotel just what it is represented to be, and all patients who were there were well satisfied with the treatment.

I was not confined to bed at all after the operation, and was able to leave at the end of ten days in an excellent condition.

I am unable to express the great relief which your treatment has given me and I cannot say too much in praise of your Institution.

I take great pleasure in recommending you whenever I get a chance, and cannot thank you enough for what you have done for me. With kindest regards,

I am sincerely yours,
B. T. STONE,
Fellowsville, Preston Co., W. Va.

B. T. STONE, ESQ.

LARGE VARICOCELE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

C. W. KELLY, ESQ.

Gentlemen—It gives me much pleasure to state that during my stay at your Sanitarium I was treated with the utmost kindness, and found everything there just as represented in your pamphlet, if not indeed better. Your Institution is the best of the kind that I have ever seen and if it is possible for a person to be cured your specialists will accomplish it. A visit there convinced me that you do not make promises which you do not fulfill. After being there and having a surgical operation successfully performed, I heartily recommend all invalids to give your place a trial. Much to my surprise the operation which was performed was perfectly painless, no anæsthetic was given, and I was not confined to my bed for an hour. I was able to leave your Institution at the end of ten days completely cured. I can heartily commend your efforts in the cause of suffering humanity, and shall be pleased to offer my personal testimony at any time. With best wishes to the World's Dispensary Medical Association, I am, Sincerely yours,

C. W. KELLY,
Riverside, Riverside Co., Cal.

VARICOCELE. THE RESULT OF INJURY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Nine years ago I was struck with a springing pole, causing the spermatic cord to swell badly. I applied for medical aid and was told that no harm would result. But I grew worse, and spent over one hundred dollars with quacks and received no help.

C. F. L. DEHAVEN, ESQ.

Four years ago while reading a chapter in Dr. Pierce's Common Sense Medical Adviser, I noticed that no hesitation was made in stating that a permanent and radical cure of varicocele could be made at the Invalids' Hotel and Surgical Institute. I went to the Hotel and the result was I returned home in eleven days permanently cured.

I cannot speak in too high praise of the surgeon, and his delicacy and kindness in performing a painless operation; or of the nurses, who almost hourly visit the invalids and minister to their comfort. The Institution is fully equipped and nothing is left undone that can relieve suffering. I conversed with a great many patients while at the Invalids' Hotel and language could not express their delight at their treatment there.

I earnestly urge all invalids to save time and suffering by being treated at the Invalids' Hotel and Surgical Institute where the latest and most improved methods are used, and operations are made painless and where everything is delightful and comfortable. I owe my life to the tenderness and skill of the surgeon and nurses at the Invalids' Hotel and Surgical Institute.

Very truly yours, CLARENCE F. L. DEHAVEN,
Haynes, Hocking Co., Ohio.

VARICOCELE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I can say that while in your Institution I received the best of care and attention both by doctors and nurses; that your operation was almost entirely without pain; that my virility has increased since then as well as the tone of my general health; that your Institution is as commodious and cheerful as one could wish. Your patients with whom I became acquainted while there nearly all seemed to be well pleased with the ease and comfort of their surroundings as well as the manner in which they were treated for varicocele.

Respectfully,
FLAVIUS BROOKS,
Sinnamahoning, Cameron Co., Pa.

F. BROOKS, ESQ.

BAD VARICOCELE OF MANY YEARS' STANDING.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

D. E. MOOREFIELD, ESQ.

Gentlemen—I take pleasure in recommending your Invalids' Hotel and Surgical Institute as first-class in every respect. Some four years ago I was there and had an operation performed on me for a very bad varicocele with which I had been troubled some 15 or 20 years. The operation was made painless by the use of local applications. After staying at your place about twenty days (longer than is generally necessary) I was able to make my long trip home. The operation was a very successful one, considering the long time my trouble had been neglected, as I have suffered little or no inconvenience since. I saw a very large number of patients at the Invalids' Hotel from all parts of the United States and Canada, and all of them seemed to have a very high opinion of the treatment they were receiving from your Specialists, and I know personally, of several remarkably successful operations performed by your skillful surgeons while I was there.

Respectfully, D. E. MOOREFIELD,
Nathalie, Halifax Co., Va.

D. H. MILLER, ESQ.

VARICOCELE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Having been operated upon at the Invalids' Hotel and Surgical Institute for the cure of varicocele, which was caused from heavy lifting, I take pleasure in informing you that it is entirely cured; it was a varicocele of a number of years' standing and a bad case. It has been three years since I was operated upon and I have not experienced any trouble from it since; in fact, I feel that I am now entirely cured. *The operation is painless* and gives entire satisfaction in every respect.

I advise all who are suffering from this or any other chronic disease to take treatment at the Invalids' Hotel and Surgical Institute and they will be well rewarded by so doing. Yours respectfully,

DAVID H. MILLER,
Markle, Huntington Co., Ind.

VARICOCELE OR FALSE RUPTURE—DUE TO STRAINING AND OVERWORK.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I can bear testimony to the removal of the difficulty for which you treated me, for I had been to experts in Philadelphia and they did not know how to perform the operation, and said I could not be cured. I was treated by experts in Albany and other cities, but all for no use. I went to the Invalids' Hotel and Surgical Institute and was operated upon and find I am cured. The treatment in every other respect was good; everything was done to make patients happy and pleasant; the best of care and attention was paid to all.

Yours truly,

W. McGOWAN.

Orbisonia, Huntingdon Co., Pa.

W. McGOWAN, ESQ.

VARICOCELE OR FALSE RUPTURE—TWELVE YEARS' STANDING—CURED IN TEN DAYS.

N. H. SHARITZ, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Having been operated upon at the Invalids' Hotel and Surgical Institute, Buffalo, N. Y., for the radical cure of a Varicocele of the left side, from which I had suffered for twelve years, I take pleasure in certifying to the speedy and certain relief afforded, and the painless nature of the operation as performed by the surgeon of the World's Dispensary Medical Association. Ten days from the time of the operation, I returned home radically and permanently cured. I desire to express my thanks to the medical staff for their skill and attention.

Gratefully yours,

N. H. SHARITZ,
Box 22, Rural Retreat, Wythe Co., Va.

VARICOCELE AND RESULTANT WEAKNESSES.

Wasting of Strength and Manly Vigor—Now Strong and Well.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I am unable to find words to express my feelings of gratefulness and gratitude that I owe to your Institution, for the able and gentlemanly treatment that I was favored with during my stay with you, by officials and attendants in their respective capacities, in every department. Nothing was left undone that could possibly be of benefit to me or add to my comfort, and to your Institution, your treatment, which in my own experience I have found to be marvelously wonderful, I feel to-day as if I owe my health, my strength, my life; for I firmly believe if it had not been for your timely and painless treatment, instead of writing to you at this time, being in the enjoyment of health and strength, I would be filling a place in an insane asylum or an invalid's grave. And it may not be more than just to your wonderful treatment to say that the Varicocele and resultant weaknesses was of about fifteen years' standing, during which time I had spent time and money with both physicians and quacks, without any result for the better, and when my life blood was daily wasting away, and the powers of manly strength and vigor were completely gone, by an act of Providence I went to your Institution as a last resort, for life or death. I was painlessly operated upon by you for my complaint, from which time I have steadily improved in health, strength, weight and vigor, until I have gone from 135 pounds, my weight when operated upon, to 174, at which I tip the balance as I write to you to-day. If the afflicted everywhere could only realize that so many lives may be spared by your wonderful treatment, none would stay away.

ROBERT B. WILLS, ESQ.

You are at liberty to give my testimony to the world in whatever way it may be of most benefit to you. I also enclose a photograph of myself that has been taken since the effects of your treatment have been shown. With feelings of much gratefulness, I am, Very truly yours,

ROBERT B. WILLS,
No. 23 Elizabeth St., Hagerstown, Md.

RUPTURE OF SPERMATIC VEINS.

Varicocele (false rupture)—Previous Operator Left Part of Surgeon's Needle in Flesh; Successfully Extracted at Invalids' Hotel.

"WHAT I THINK OF THE INVALIDS' HOTEL AND SURGICAL INSTITUTE:"

The Invalids' Hotel and Surgical Institute is an Institution first-class in every respect, presided over by a capable, honest and pleasant lot of medical experts who certainly know their business. I cannot speak of it too highly.

I was treated there in the summer of 1887, for Rupture of the Spermatic Veins, previous to which I had been operated on two different times, with no relief, by a doctor here in this place cracked up to be one of the best in Northern Illinois, and an officer of the Chicago Eye and Ear Infirmary. The operation at the Invalids' Hotel was perfectly painless, did not have to take any anæsthetic, neither was I confined to my bed at all, and the result a perfect success; while in the two previous operations I had here at home, I was confined to my bed a week each time and another week scarcely able to move about, besides getting worse each time with pain enough to drive one crazy. But the half has not been told. About two and a half years after I had been cured of my difficulty at Buffalo, I commenced having terrible pains in my leg and abdomen, for which I could not account, and after standing it until it seemed as though I would be glad to die, I again consulted the Invalids' Hotel; after a thorough investigation they operated on me where my pain seemed the most apparent, and dug out a piece of a surgeon's needle something over half an inch in length, that had been broken off in the first operation I had by the doctor here at home, and so admitted by him when confronted with it. I have spent lots of money and nearly six years of the worst pain man ever stood getting relief, while had I known of this place on

CHAS. P. MORSE, ESQ.

the start, an operation with no pain whatever and scarcely more discomfort than a sore mouth after having a tooth removed, would have ended it all.

In conclusion, I will say to any poor sufferer, don't do as I did and put your trust in the would-be greatest doctor you have at home, but go to this place at Buffalo, where you will have proof of their ability, and where you will surely meet patients about to leave, cured; others on their way to recovery for the same difficulty you may have yourself, no matter what it is, if curable at all; a place where you will have the kindest of attention, the best of medical and surgical skill, and where you can see sufferers going away every day with hearts full of gratitude and happy. Respectfully, CHAS. P. MORSE,

311 North Avon St., Rockford, Ills.

VARICOCELE—FALSE RUPTURE CAUSED BY INJURY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—In the year 1866, sometime in July, I jumped from a load of lumber to the ground, and at once felt a sharp severe pain along the spermatic cord of left side of scrotum, preventing my walking to the house without help. The veins near the cord filled to such extent that they seemed solid, and could not be reduced for some time. I went to a good doctor and by him was advised to "pay no attention to it, it will not amount to much." From that time I suffered continually, and will not try to describe what I endured until I was relieved by a surgical operation performed on me by the surgeon-specialist of the Invalids' Hotel and Surgical Institute, of Buffalo, N. Y. After working hard for several years my suffering increased and I was advised to consult Prof. L., of Chicago Hahnemann College (of Homeopathic School) and by him was informed an operation of tieing the veins (choking them off) could be performed but 90 per cent (if I remember rightly) of the operations proved fatal. I decided not to try it. By accident I learned of your great skill, and though my case was of twenty-one years' time, and my health and strength gone, I considered the method plausible and reasonably safe. I had the operation performed, and now after six years have passed, I can say with satisfaction, there is little to be noticed or remind me of the past years of misery. The parts are of healthy color. Urine has assumed a natural appearance, both sides of scrotum seem in size alike. No bandage is worn and for two years has been discarded. My weight increased and for two years prior to the taking of my photo, I did the work of handling a third-class post office, doing a money order business of $50,000, not losing a day in that time, and at the present time in this hot climate, I have been doing outdoor work, some of it hard, and with mercury at 100 degrees. I have worked and found no need of a bandage; and no unnatural relaxation of the scrotum or veins is noticed.

G. W. MCCOLLOM, ESQ.

If anyone wishes to write me, they are at liberty to do so. If my experience can be of benefit to any, I will answer all enquiries, and in a general way will now say no one should delay attending to such difficulty, for if the blood is in a reasonably healthy condition your surgeon will operate in such a way that the result will be all right in time. I send photo taken in 1891.

Respectfully, GEORGE W. MCCOLLOM,

Monrovia, Los Angeles Co., Cal.

VARICOCELE.

Steelton, Dauphin Co., Pa.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—The operation performed upon me for the cure of varicocele has been a success. The operation was made painless by local applications, previously applied. The seventh day after the operation I returned home and three days later went to work feeling like a new man, having received the very best skill and attention while at your Institution.

I have also met a number of those who have been operated upon for the above complaint at your place, all of whom have met with the same favorable results and have expressed the deepest gratitude for the Institution.

I found the Invalids' Hotel and Surgical Institute, with its modern conveniences, its Medical and Surgical Staff and trained nurses, just as represented. To all who are afflicted with chronic complaints I shall ever recommend your Institution. Yours truly,

Wm. A. Rutherford

VARICOCELE AND GENERAL DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I can bear testimony to the removal of varicocele, for which you treated me. I had been in the habit of getting out with the boys and trying to see which could kick the highest with one foot on the ground, and it caused me to have varicocele. I went to my home doctor and he treated me with no success. It was getting worse all the time and I got out of shape all over. My health got bad and I thought my case hopeless. I had tried two doctors and received no benefit.

J. L. RIDINGS, ESQ.

I had one of your little Memorandum Books in my pocket, and one day, looking through it I saw you treated such cases, and wrote you and received word in a few days that you would treat me, so I sent off for one month's treatment; and in five months I had gained my weight back, and that was eight years ago and I feel sound and well and my health has been good ever since.

You are at liberty to use my testimony in whatever way it may be of most benefit to you.

I also enclose a photograph of myself that was taken soon after your treatment.

With feelings of much gratefulness, I am,

Very truly yours,

J. L. RIDINGS,

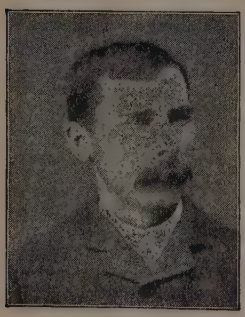
Clarence, Shelby County, Missouri.

VARICOCELE AND NERVOUS DEBILITY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I commenced treatment, I think, in July or August, of 1888, and continued four months. My case was nervous debility of fifteen years' standing.

I tried home doctors but found they were only aggravating my case. I also tried the Remedy Company, then of St. Louis, who claimed to perform wonderful cures with their "Pastiles," but they proved utterly worthless. Having come in possession of Dr. Pierce's little book and circulars, a perusal of the same convinced me that my health would not be trifled with at his Institution.



D. A. WALTON, ESQ.

I was a poor man and could not afford much experimenting. I ordered one month's treatment, and at the end of this first month, I found, to my surprise, that I was feeling different. The second month, still more surprised at my returning health. Third month thought I was cured, and engaged myself to a young lady, and wrote you to that effect, and you advised me with your congratulations to marry, and to order another month's treatment; and at the end of the fourth month I was a *man*, something I did not know what it would be like to be before.

I have now been married five years, and have two healthy children—a boy and a girl. I would never have dared to marry had it not been for your medicines. I must add that during this treatment I was troubled with varicocele on left side. I wrote you this at third month of treatment, and you sent without extra charge, a Suspensory and Lotion, and two months' treatment cured me sound and well of this distressing malady; I have not felt the least symptoms of its return.

I want the world to know what a competent and honorable firm the World's Dispensary Medical Association is. I would love to shake you by the hand. May God let you continue to be a help to mankind is my prayer.

Yours truly,

D. A. WALTON,

Marion, Grant County, Ind.

BAD VARICOCELE OF LONG STANDING.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I feel many obligations to your noble skill, as physicians. I was treated with much kindness by physicians and nurses. I was surprised to find such a speedy cure of such a bad case of varicocele of long standing; the operation was entirely painless and I felt a great change in myself, as a result of it. Am so glad to tell any sufferer of that terrible disease to apply to you at once and be cured, for I am sure I could not have lived long as the pressure and burden was so great *I could scarcely be on my feet at all*; any work in an upright position was impossible.

J. M. ELAM, ESQ.

Now it has been five years since I was operated upon and I feel well of that disease — varicocele attended with impotency or weakness of the generative organs, caused by varicocele.

Thanks to the good physician who relieved me—hope he may live long and be able to relieve all that submit themselves to him for treatment, as I did. I found everything that had been described to be just so in regard to the Staff and Institution.

Gratefully yours,
J. M. ELAM,
Flat Rock, Scott Co., Va.

DOUBLE VARICOCELE AND STRICTURE OF URETHRA.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I have taken treatment from you for several months for nervous debility, and although I am not quite fully cured as yet, I have been greatly benefited, and believe, if I had come to you before I was duped and swindled by different quacks and was more dead than alive, I would to-day be a thoroughly well man.

I have also been to your Institute twice for surgical operations, and cannot too highly praise the Hotel, or the skill and care of the attending surgeons and nurses. They are gentlemen in every way and the Invalids' Hotel is just as represented.

I shall advise all suffering from chronic diseases to go to you for relief, as I have never seen any one there who was not cured or greatly benefited.

Very truly yours,
CHRISTIAN HANSON.
Austin, Mower Co., Minn.

C. HANSON, ESQ.

INDIGESTION, CONSTIPATION, VARICOCELE.

MR. HODGES.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Dear Sirs—In regard to my condition of health, will say, although I am not entirely well, yet I have received much and lasting good from your treatment. My digestion was improved greatly, so that little trouble is experienced after eating; my liver seems to act reasonably well, and my bowels are much better. My varicocele I consider entirely cured, as I have not used the bandage for one half day for more than six months, and do not experience any inconvenience from that source.

Yours truly,
HARLAN HODGES,
Keota, Keokuk Co Ia.

W. H. DELLINGER, ESQ.

BAD VARICOCELE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Having been operated upon at the Invalids' Hotel and Surgical Institute for the radical cure of a bad varicocele, from which I had suffered for eight years, I desire to express my thanks to you for your kindness and skill. And I would advise all persons, needing surgical or medical treatment, to go to the World's Dispensary Medical Association.

Respectfully yours,
WILLIAM H. DELLINGER,
Vincennes, Knox Co., Ind.

VARICOCELE.

Cambridge, Furnas Co., Nebr.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—With great gratitude toward your most valuable Institute, I feel indebted to you for the cure of variocele. I was troubled ten years with this annoying disease, caused, I think, by being thrown from a horse. My case was of a very obstinate character. I was treated by a leading specialist of Omaha, Nebr., without success and without being in the least benefited. I expended the neat little sum of $500, and then sank back in despair, losing all hopes of a cure. I had previous to my treatment in Omaha noticed a little hand or Memorandum Book of the World's Dispensary, and again one came to my notice. I mustered up courage to write to you, and in June, 1892, I visited your Institute for treatment. I was treated by the best skilled surgeons and given best attention by experienced nurses. I met a number of patients while under treatment troubled with various and complex diseases, who expressed their gratitude to the Faculty of the Invalds' Hotel and Surgical Institute. The operation performed was rendered painless, owing to local applications previously applied. After the operation, which was about 11 o'clock, A. M., I rested until 12, noon, and responded to the dinner call as usual. I was required to remain but ten days, then returned home, a distance of some twelve hundred miles. I wore a neat fitting support for about six months, and then abandoned it and have gone as nature created me. Oh, what a relief. I had worn a "suspensory" for about six years. I have had no return of former trouble, it being now about two years since the operation.

To any suffering with varicocele I must say, "don't delay, but place yourself under treatment at the Invalids' Hotel and Surgical Institute, Buffalo, N. Y., and you will say as I do, 'The half has never been told.'" With earnest wishes for your future success, I am, Yours truly,

E. S. Brown

VARICOCELE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I wish to inform you of the success of your treatment of me for varicocele on the left side and its attendant weakness, etc. I am now happy to say that through the agency of your surgical skill and the efficacy of your medicine, I am healthy, strong, and a perfect man. I suffered for about two years previous to the operation with acute pain in the parts, and continued mental anxiety. I desire to express my entire satisfaction that, during the ten days that I remained in the Invalids' Hotel, I never experienced such uniform kindness and attention as I did from the attending surgeon and from all the attachees, and that I recommend all persons similarly afflicted to consult you, and they can be sure to find the way to happiness.

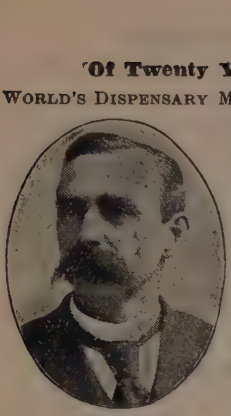
Respectfully yours,
D. E. RIGHETTI,
Cayucos, San Luis Obispo Co., Cal.

D. E. RIGHETTI, ESQ.

VARICOCELE

'Of Twenty Years' Standing—Cured Without Pain.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:



C. H. BOYLE, ESQ.

Gentlemen—I take great pleasure in recommending the Invalids' Hotel and Surgical Institute. After trying my home physicians without obtaining any permanent relief, and growing constantly worse, I went to this famous Institution and submitted to an operation for varicocele. This was a perfect success, and soon I felt like a new man, and as strong as I ever did. I feel that nothing I could say would do justice to this renowned Institution. In every way, it is kept in advance of the age. The staff of physicians and nurses spare no pains to make the visit of every one pleasant as well as beneficial in the highest degree. I would urge all sufferers afflicted as I was, or with any chronic disease, to avail themselves, without delay, of the skillful treatment to be obtained of the specialists of the World's Dispensary Medical Association, for I am confident that they will receive all the benefit that can be obtained from medical or surgical treatment and care. Yours truly,

CHAS. H. BOYLE,
Fort Benton, Choteau Co., Montana.

VARICOCELE.

Spent $500 With Other Doctors to no Purpose.

Bryson, Jack Co., Texas.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I had been troubled with varicocele for nine years, and had given up ever being cured. After spending $500.00, with medical quacks I then went to the World's Dispensary Medical Association as a last resort. One of their skillful surgeons performed an operation upon me which was entirely painless. I conversed with several other patients, who had the same disease. They seemed happy to know that there was such an Institution that could relieve suffering humanity. The surgeons and nurses were so good and kind to us and gave us the best of attention and even the patients had a very fraternal feeling toward each other.

Your Institution is finely equipped and has the best of accommodations. Accept my thanks. Yours truly,

A D Bryson

A BAD CASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

Gentlemen—I have been cured of an almost life-long difficulty by the skill of your specialist, and heartily thank you for the successful manner in which the operation was performed in my case. The result is complete and perfect relief, and as time advances I can each day more fully appreciate the value of your Institution. The time spent there I shall never forget, as it was a time of extreme pleasure to me. The operation was *perfectly painless* and did not confine me to my bed, and this taken with the extreme kindness of every one connected with the Institution, made the time pass in a very happy manner.

I consider your Hotel first-class in every respect, and would heartily advise all sufferers from chronic ailments to visit you before giving up their cases as hopeless.

Respectfully yours,
H. C. DECKER,
Dresbach, Winona Co., Minn.

H. C. DECKER, ESQ.

VARICOCELE—CAUSED FROM STRAIN.

Montague, Sussex Co., N. J.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—In reply to your inquiry concerning my treatment, I cheerfully give you the following testimonial: "I was troubled for many years with a very bad varicocele, which I received when a boy while jumping. The complaint troubled me exceedingly. I tried almost every known means to effect a cure, but with no avail, for the more I doctored the more aggravated became the disease. After thus suffering for many years and knowing of the fame your Institution had attained in curing such diseases, I at last consulted your specialist in that class of diseases—was operated upon and returned home in ten days, a sound and well man. I can recommend your Institution to all suffering humanity as the most home-like, your nurses the most attentive and specialists the most skillful the world can offer. May you long be the benefactors of mankind."

Yours truly,

F. L. VanEtten.

E. H. MAHNKEN, ESQ.

VARICOCELE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—The result of your operation, performed one year and a half ago for a case of varicocele of twelve years' standing, and which had troubled me very much, has cured me entirely. I am thankful to God that He put it into my mind to visit your Surgical Institute. I cannot recommend your skill too highly. Yours truly,

ED. H. MAHNKEN,
Smithton, Pettis Co., Mo.

VARICOCELE.

Medora, Billings Co., N. Dak.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—Having been operated upon at the Invalids' Hotel and Surgical Institute, Buffalo, N. Y., for the radical cure of a varicocele on the left side from which I suffered four years, I take pleasure in certifying to the speedy and certain relief afforded, and the painless operation, as performed by the surgeon of the World's Dispensary Medical Association. Ten days from the time of the operation I returned home permanently cured.

I desire to express my thanks to the Medical Staff for their skill and attention.

Gratefully yours,

Geo. O. Reid

A STRONG ENDORSEMENT.

To whom it may concern:

This is to certify that I took treatment at the Invalids' Hotel and Surgical Institute, Buffalo, N. Y., and I was cured of a chronic trouble that had been maltreated by other physicians. While there I saw a man who had been cured by the specialists, who had before been given up to die by the best doctors in Troy, N. Y. Of course, the case must have been a very stubborn one. I afterwards saw a man here, in Georgia, die, who, if he had been in Pierce's Surgical Institute under the treatment and care of his skilled doctors and nurses, I know would have most assuredly got well. Why? Because it was only a case of *stone in the bladder*, and they are easily cured at Dr. Pierce's Surgical Institute. I think almost any chronic disease can be cured there, if taken in time, judging from my observations while an inmate of that Institution.

H. E. BANKSTON,
Barnesville, Pike Co., Ga.

H. E. BANKSTON, ESQ.

HYDROCELE,

Or Dropsy of the Scrotum.

This malady consists of a collection of water in the *tunica vaginalis*, or membraneous sac which contains the testicles. It may affect either one or both sides. In health the sac-like covering, or investing membrane, of the testicle secretes a limpid fluid which lubricates its inner surface. When secreted in excess, it accumulates and constitutes *hydrocele*.

The tumor commences at the bottom of the scrotum and grows very gradually, while hernia, or rupture, with which it is often confounded, progresses from above downwards and makes its appearance suddenly.

We were recently consulted by an aged gentlemen, whose disease a distinguished surgeon had pronounced *double hernia*. On examining the enlargement, we found the disease to be dropsy of the scrotum, complicated with varicocele.

Causes. Injuries from blows or bruises are among the most common causes of this disease. It may also result from inflammation of the testicle or from excited action in those parts. It has been known to result from stricture of the urethra, or water-passage, and also from local irritation along that passage.

H. H. Williams, Esq.

HYDROCELE.

World's Dispensary Medical Association,
Buffalo, N. Y.:

Dear Sirs—In answer to inquiries will say, that any person afflicted as I was, I would advise them not to listen to any ordinary doctor, but leave at once for the Invalids' Hotel and Surgical Institute, Buffalo, N. Y., where he could get the best of treatment and attendance that money could procure. The table also is loaded with the best of fruits, vegetables, and the finest meats of the markets.

Respectfully,
H. H. WILLIAMS,
St. Augustine, Florida.

HYDROCELE.

World's Dispensary Medical Association,
Buffalo, N. Y.:

Gentlemen—Without solicitation, but simply to aid suffering humanity, I take pleasure in recommending your place to any suffering from Hydrocele.

I was cured in a short time, after having the Hydrocele for eighteen years. Your new process is painless, no knife being used and is certain, sure and safe.

With many good wishes of success, I am,
Yours truly, DAVID FLYNN,
(Engineer, S. F. & W. Ry.,)
Way Cross, Ware Co., Ga.

D. Flynn, Esq.

HEMATOCELE OR RUPTURED VEINS.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

D. PARKER, ESQ.

Gentlemen—I was afflicted with Hematocele of large size, caused by an injury, for which home-treatment gave me no relief.

Hearing of your Invalids' Hotel I went there and had an operation performed for its cure. I have the greatest confidence in your Specialists, as the operation was a perfect success. It was perfectly painless, and I was able to go home in less than two weeks with the cure complete. I take pleasure in certifying to the good work you are doing.

With the best of feeling toward the Invalids' Hotel, I am,

Yours truly,

DON PARKER,
P. O. Box 155, Oakfield, Genesee Co., N. Y.

HYDROCELE WITH VARICOCELE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—About five years ago, having been a patient at the Invalids' Hotel and Surgical Institute and undergone a painless operation for the cure of hydrocele and varicocele—which was performed to my entire satisfaction, I desire to express my thanks to the Medical Staff for their skillful treatment of my case. Two weeks from the time of the operation I returned home, radically and permanently cured.

I recommend all similarly afflicted to consult the World's Dispensary Medical Association.

Yours truly,

DANIEL HUNTINGTON,
Huron, Beadle Co., So. Dak.

D. HUNTINGTON, ESQ.

TWENTY-TWO YEARS' STANDING—UNSUCCESSFULLY TREATED BY OTHERS.

E. L. WATERS, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I wish to acknowledge that you have cured me of the worst case that ever came within my knowledge, it having afflicted me twenty-two years. After I had suffered much from other surgeons without any cure being effected, and with only relief for a short time, you performed a not only painless but very scientific operation, and with medicine completed the cure. It is now five years since you treated me and no symptoms of the disease have shown themselves. I will also add that while with you at the Invalids' Hotel I received the best of care and attention from the well trained nurses in your employ, for all of which I feel grateful.

With respect and best wishes,

EDWIN L. WATERS,
Athol Centre, Mass.

THE

URINARY ORGANS:

THEIR

ANATOMY, PHYSIOLOGY AND PATHOLOGY.

By reference to Fig. 1 the reader will get a good understanding of the relative positions of the kidneys, bladder, and adjacent organs.

THE KIDNEYS.

It is hardly necessary to discuss the minute structure of these organs in a book intended for the non-professional reader.

The function of the kidneys is to remove certain waste materials from the blood. As fast as excreted by the kidneys, the urine passes through the ureters, of which there are two,—one leading from each kidney, into the bladder. The ureters are lined with a continuation of the mucous membrane, reflected from the bladder upwards, and this lining also extends to the cavities of the kidneys.

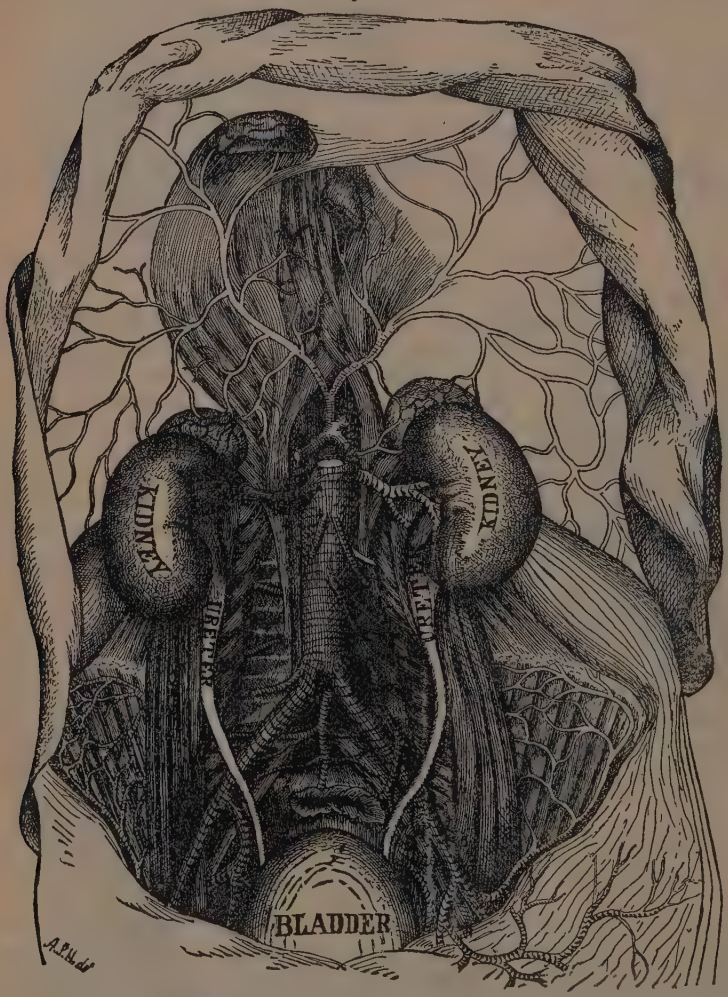
Calculi or gravel, and stones, forming, as they sometimes do, in the kidneys, and passing down through these delicate and sensitive canals, cause excruciating pain. The symptoms of renal calculi passing from a kidney to the bladder are, as already indicated, severe cutting pain in the loins, and along the ureter, attended with considerable fever. A very rough stone, such, for instance, as a mulberry calculus, passes with considerable difficulty, and the patient is often suddenly seized with excruciating agony in the loins and in the groin, the pain also shooting down into the testicle of the corresponding side, often causing it to retract. There is usually, also, sympathetic pain shooting down the thigh. We have seen patients roll on the floor in the greatest agony, cold sweat meanwhile pouring down their faces, when thus suffering. The patient may also vomit violently, through nervous sympathy. The urine is apt to be bloody, and there is a constant desire to pass it. There is pain in the end of the penis, and also in the lower portion of the abdomen.

THE BLADDER.

This is a sac, or reservoir, to receive and hold the urine as it comes from the kidneys through the ureters. Its walls are partly composed of muscle, and partly of a lining mucous membrane. The muscular coating is external, and it is by its contraction that the urine is expelled. When empty, the bladder shrinks down to a small size, as compared with its distended condition. When filled, it is capable of holding about one pint. If it is distended by the retention of urine much be-

yond this capacity, the muscular coats lose their force, and often the urine cannot be passed naturally. In health, when the bladder becomes filled and distended, there is a consequent desire to empty it by passing

Fig. 1.



water. The voiding of the urine should not be attended with the slightest pain or disagreeable sensations, and the desire to pass it should not be frequent. When there is frequent desire to pass it, or when its passage is attended with pain, there is irritation, or inflammation, in

the coats of the bladder, or in the urethra. This may arise from an excessively acid or irritating condition of the urine, as well as from various other causes. Gonorrhœa, or clap; stricture of the urethra, which impedes the free flow of the urine; enlargement or inflammation of the prostate gland; gravel, and stone in the bladder, are all capable of creating a frequent desire to pass water. Whatever the unhealthy condition may be which gives rise to this troublesome symptom, it calls for prompt and skillful treatment, for the most trivial affections of these organs often pass into those that are exceedingly intractable, if not incurable.

The Examination of the Urine. The urine itself, when subjected to microscopical or chemical examination, as we shall hereafter more fully explain, offers the best means of determining the exact nature of these distressing affections. When normal, the urine is of a pale straw-color, and throws down no deposits on cooling. In passing it no difficulty or pain should be experienced, and it should spurt from the urethra in a full, round, and regular stream, until the bladder is entirely emptied. If the stream is forked, checked, or interrupted in any way before the bladder is completely emptied, it is evidence that something is wrong. Stricture of the urethra, prostatic disease, and gravel, or stone in the bladder, are all capable of producing obstruction to the free flow of the urine.

How Slight Ailments become Dangerous Diseases. As we have before stated, the mucous membrane lining the bladder is reflected upwards into the ureters, lining these canals. By reason of this continuity of mucous surfaces, patients suffering from urethral, prostatic, and bladder affections, often die from disease of the kidneys. It must not be supposed that because stricture of the urethra does not co-exist with *Bright's* disease, that the latter may not have been caused by the obstruction in the urethra due to stricture. Pulmonary consumption, for instance, often begins in the form of nasal catarrh, but, by the continuity of the mucous membrane, it travels, so to speak, into the throat, or pharnyx; from the pharnyx into the larnyx, and then into the lung structure itself. The disease is transferred from the nose into the lung tissue. What occurs in the nasal, laryngeal, and pulmonary tract of mucous membrane, happens, also, in the urinary tract. A gonorrhœa, which is a specific acute inflammation of the urethral canal, leaves behind it a slight gleet, or chronic inflammation of the mucous membrane of the urethra. This may give little inconvenience for a number of years, but gradually it culminates in a stricture, or, implicating the prostatic portion of the urethra, occasions inflammation of the prostate gland, and, perhaps, enlargement of this organ. This gradually gives rise to cystitis, or inflammation of the bladder. From the bladder, the disease travels up the ureters into the kidneys, and finally *Bright's* disease is established in these organs.

The mucous membrane lining the bladder also extends through the

urethra. Throughout the interior of the body, whether it be in the stomach, lungs, or other parts, this lining mucous membrane serves as a protection to the parts beneath, just as the skin on the exterior of the body serves as a protection to the sensitive true skin and the tissues underneath it.

The Cause of Certain Distressing Symptoms. Close to the neck of the bladder is a triangular space, on which the mucous membrane is smoother, and devoid of folds, or rugæ, and which is far more sensitive and vascular than other portions of the mucous membrane lining this organ. It is called the *trigone vésical.* This *trigone* is the most depending part of the bladder. If there be stone in the bladder, it naturally gravitates and rests on this sensitive space, so that, when the bladder is empty, the foreign body occasions inconvenience, until the urine, trickling down through the ureters, and intervening between the mucous membrane and the stone, serves as a temporary protection to the mucous surface. Hence the pain becomes less as the urine is secreted, until the water is again passed, and the intervening fluid thereby removed, when the stone again presses upon, and irritates, the sensitive *trigone*, by coming into more immediate contact with it. The greater ease with patients afflicted with stone experience in a recumbent position in bed, or on a sofa, compared with being in an erect posture, is easily explained. The foreign body, when the patient is standing, walking, or riding, falls by its own gravity on this sensitive spot; when in a recumbent position, it rolls away from this sensitive *trigone* into the back part of the bladder, where the mucous membrane is less sensitive; consequently, the patient suffering from stone in the bladder is more easy at night, whereas, one suffering from prostatic disease, whether it be inflammation of the prostate gland, or enlargement of that organ, is usually worse in bed.

How Bladder Diseases come to be Confounded with other Diseases. The bladder is largely supplied with blood-vessels, lymphatics, and nerves, given off from the same systems that supply the rectum or lower bowel, and in females the uterus or womb, and the ovaries. This accounts, in a great measure, for the symptoms of bladder disease in those afflicted with piles, or other diseases of the lower bowel, or of diseases of the uterus or womb in the female. We have frequently been consulted by patients who had erroneously supposed themselves to be suffering from disease of the bladder, or of the prostate gland, but whom we found, on examination, to be suffering from hemorrhoids, or piles. In these cases, by removal of the pile tumors, the frequent desire to urinate, and all pain in the region of the bladder, are promptly relieved. Sometimes, ulcers located in the rectum, give very little unpleasant sensation in the bowel, but produce pain in the bladder, with frequent desire to urinate. Enlargement of the uterus, or womb, or displacements of that organ, as prolapsus, or ante-version, are all capable of producing symptoms of bladder disease. A frequent

desire to urinate and more or less sharp pain in the region of the bladder are usually experienced in these cases. Disease of the bladder, in like manner, often produces an apparent disease of other organs through sympathy, and without great care in diagnosticating each case, the *effect* may be taken for the *cause*, and the patient treated for a disease which does not really exist.

THE URETHRA.

The urethra, in the male, is the canal extending from the bladder to the end of the penis, through which the urine is passed. This canal starts from the base of the bladder, passes through the prostate gland, and, entering the penis, continues of about uniform size along the under part of the penis until it reaches the glans, or head of that organ, where it expands somewhat into a bulb-like fossa, or cavity, and becomes reduced again at the orifice. At a short distance from the bladder it receives the outlets of the seminal ducts. The urethra is a most delicate and sensitive canal, and is surrounded by tissues of like delicacy, and is lined with a mucous membrane which is highly vascular, and filled with sensitive nerves. The introduction of any instrument into this canal is to be undertaken only when absolutely required, and when necessary, it should be so skillfully and carefully effected that no pain or irritation can result. The slightest awkwardness is liable to cause an unnoticeable injury, which may result in a false passage, or an effusion of plastic lymph around the canal, which, organizing, forms the most troublesome kind of organic structure. By proper and early treatment all danger and pain is avoided, and a cure effected in a very short time. In an extensive practice, in which we yearly treat thousands of cases, we have never yet failed to give perfect and permanent relief from stricture, or disease of the prostrate gland, without the necessity of using cutting instruments of any kind, when we have been consulted before injury to the urethra has been produced by the improper use of instruments. Having specialists who devote their entire time and attention to the study of these diseases, we are able to relieve and cure a large number painlessly and speedily, in which the awkward manipulations of physicians or surgeons, whose hands, untrained by constant and skillful use, not only fail to effect any benefit, but set up new, or aggravate existing, disease.

This subject will receive a more full and complete consideration in another part of this treatise.

THE PROSTATE GLAND.

The prostate is a gland of about the size and shape of a large chestnut, lying just in front of the bladder, and surrounding the urethra. The size of the prostate gland varies considerably with the age of the person. In early life it weighs but a few grains. As puberty approaches it becomes larger, and in the adult weighs from half an ounce to an ounce. In old age it enlarges considerably, and sometimes presses upon

the bladder so as to impede the flow of urine. This condition is often confounded with stricture, gravel, or stone in the bladder, by inexperienced physicians. Hypertrophy, or enlargement of the prostate gland, is not an unfrequent disease in the adult or middle-aged man. Being in close contact with the bladder, when it enlarges it encroaches on the bladder, pressing on it, and it has the effect of interfering with the function of urination. As before indicated, enlargement or hypertrophy of the prostate gland, is often confounded with stricture, gravel, and stone in the bladder, by inexperienced physicians, and treated accordingly. The true condition of this gland is readily determined by an examination through the rectum or lower bowel, the finger of the expert surgeon being able to determine at once whether it is enlarged or not.

The Danger of Bad Treatment. In disease of the prostate gland, as well as in inflammation of the kidneys and bladder, stricture of the urethra, and many other forms of urinary disease, the use of stimulating diuretics, and the much-advertised "kidney cures," "buchus," and similar preparations, which largely increase the flow of urine, simply aggravate, and do positive harm. In fact, the most difficult cases that we have had to deal with have been those that, through such treatment, either taken on their own account or prescribed by inexperienced physicians, have been rendered so much worse as to make their cases very intractable, and tedious to relieve and cure.

Require Nicely Adapted Treatment. As we have heretofore indicated, there is no class of diseases that require nicer adaptation of medicines to each individual case, than those of the urinary organs. Medicines which, in one stage of these diseases are beneficial and curative, in another stage are often exceedingly injurious. Hence it is that we claim it to be impossible for any one to put up any set prescription, or proprietary medicine, that will meet the wants of a large percentage of this class of cases. The only rational course to be pursued is to examine carefully each case as it is presented; find out the exact condition and stage of the disease with which the patient is afflicted, and then prescribe for it such special medicines as are nicely and exactly adapted to the patient's condition. These, in many cases, will have to be changed from time to time, to suit the ever-changing condition of the disease, as it is modified by the treatment. Not only have the manufacturers of "buchus," "kidney cures," etc., committed grave errors by prescribing stimulating diuretics for almost all kidney and bladder diseases, under the impression that, as the patient passes only a small quantity of urine at a time, the kidneys should be stimulated to secrete more, but physicians in general practice have been very prone to commit the same error in their practices. When the bladder and kidneys are in a weak and diseased condition, incapable of efficient action, the bladder being already unable to dispose of the diminished quantity of urine secreted, it is simply outrageous practice to administer medicines calculated to

stimulate the kidneys to perform more work. By being thus forced, these organs become seriously diseased. It would appear most unreasonable to whip and spur a horse already jaded from overwork. Common sense would dictate rest, which always does good; but, as the bladder is weak, the doctor whips up the kidneys with drugs, thus endeavoring to force them to secrete more urine, and thereby the poor, crippled bladder, which is incapable of disposing of even the diminished quantity secreted, is actually made to do more work in a diseased and feeble condition, than it would perform in a sound, strong, and healthy state. The results of this pernicious practice are *Bright's* disease of the kidneys, cystitis or inflammation of the bladder, and numerous other grave maladies.

KIDNEY DISEASE.

Diseases of the kidneys are generally very slow in their inception, coming on gradually and manifesting no special symptoms of their presence until they have assumed a formidable character. For this reason they are the more dangerous. Simple derangement of the urinary secretion is no evidence of disease of these organs, as changes in the color, quantity and specific gravity of the urine are often produced by changes of temperature, active or sedentary habits, mental emotion, and sometimes by articles of diet, or drink, as well as by the use of different drugs.

The existence of disease of the kidneys in the early stages can only be positively determined by a microscopical and chemical examination of the urine, which reveals to us the presence of casts, epithelia, blood, pus, etc. The microscope informs us not only of the presence of disease, but very often of the particular portion of the kidney in which it is located, as well as of the stage which the disease has reached. We are also aided by chemistry in determining the exact abnormal condition of the kidneys by the detection of albumen, sugar, etc. These examinations, by aid of the microscope and chemical re-agents, should never be neglected by the physician. Without them his diagnosis, or judgment of the patient's condition, is simply guess-work. With them he is enabled to base his treatment upon certain and positive knowledge of the patient's real and true condition.

The usual symptoms of chronic disease of the kidneys, but which vary materially with the age, constitutional peculiarities and temperament, are weakness in the small of the back, pains in the region of the loins and groins, numbness of the thigh on the side of the affected kidney (for often only one organ is affected), high-colored and often scalding urine, many times depositing a sediment, sometimes white or milky urine, bloody urine, frequent desire to pass the urine, partial impotency, pains in the testicles and shooting into the loins, suppression or inability to pass the urine, gravel, stone in the bladder, dropsical swellings,

swelling of the testicles, irritability and pain in the bladder, mucous and sometimes seminal discharges oozing from the urethra.

When the Bladder is affected the prominent symptoms usually complained of are irritability of the bladder, accompanied by a frequent desire to urinate, inability to retain more than a small quantity of urine, and this for a short time only, pain in the region of the bladder, extending into the back, thighs, etc., hot scalding sensations in passing the urine, sediment in the urine, and sometimes bloody urine. The appetite is usually diminished, there is a depression of spirits, the urine is often passed only by drops, and is irregular in quantity and quality, frequent inability to pass the urine at all, in males partial impotency, with dull disagreeable pain in the testicles and irritation of the urethra, attended with mucous and sometimes seminal discharges oozing from the urethra. Some of these symptoms may be present as the result of functional or organic disease of other organs than the kidneys or bladder, and to distinguish them with positive certainty is impossible without the aid of a microscopical and chemical examination of the urine.

BRIGHT'S DISEASE.

This affection may appear in either an acute or chronic form. The acute form is frequently a complication, or sequel of scarlet fever, diphtheria, cholera, typhoid fever, erysipelas or measles, and is frequently developed by intemperance. The acute form of the disease is very rapid in its progress, often destroying life by uræmic poisoning—the retention of urea in the system.

The symptoms of the acute form are diminution or suppression of urine, dry skin, chills, thirst, pains in the loins, and a general dropsical, puffy condition of the system, especially manifesting itself in the earlier stages under the eyes, but gradually showing itself in the œdema, or swelling of the feet, and lower extremities generally. Unless promptly relieved, the patient dies of coma (stupor), or from convulsions. No person should be so rash as to attempt the treatment of this dangerous affection without the aid of the best medical skill that can be procured.

It is the Chronic Form of Bright's Disease that we propose principally to discuss in this article. True Bright's disease of the kidneys is an insidious and most fatal form of organic disease.

We venture to assert that less than one per cent. of those who imagine they have "Bright's," have this disease at all. We find that most of those who, as one of our Faculty puts it, *insist upon having* Bright's disease, base their "diagnosis" upon the ever-changing condition of the urinary secretion, and especially upon the copiousness of the deposit; whereas, in true Bright's, deposits of any kind are rarely met with. Perhaps the form of deposit most commonly mistaken for Bright's disease, is that known to medical men as the *urates*. When the urates

are in excess they form a heavy pinkish deposit of a flocculent nature within from five to thirty minutes after the urine has been passed—that is, after it has been passed sufficiently long to cool. To prove that the deposit is urates, heat the specimen to the temperature of the blood, when the deposit in question will disappear. Excess of urates has now been definitely traced, in the majority of instances, to functional torpidity of the liver.

Another common form of deposit is that in which the reaction of the urine, instead of being acid, as in health, is either neutral or alkaline, and in which the earthy phosphates are precipitated for this reason. The earthy phosphates, when thrown down by a neutral or an alkaline condition of the urine, appear as a heavy white deposit, which, though usually devoid of clinical significance, is certainly calculated to frighten timid patients who read of the "terrible ravages of Bright's" in the advertisements of various popular "kidney cures." To prove that the precipitate is phosphatic in its nature, add a few drops of vinegar and it will disappear; whilst, if, after the vinegar has been added, the specimen be brought to the boiling point, not only both the urates and phosphates remain in solution, but there is only one single substance known to pathological chemistry that can form a deposit under these conditions—and that substance is albumen, which, if present in quantity, is always indicative of serious disease.

The papers are filled with the plausible but unwarranted statements of the manufacturers of various "kidney cures," who anxiously desire that every one should be impressed with the idea that all their troubles arise from kidney disease in order to sell large quantities of their medicines. In many cases the unfortunate patient is rendered much worse by the use of remedies that are not suited to his condition, and which will not cure the real trouble with which he is affected.

Daily we are consulted by persons in whose cases these errors have been made. In reality, true Bright's disease is not a common affection, and nine out of ten individuals who think that they suffer from it, or the early stages of the trouble, in fact have something more curable. In some cases it is an affection of the liver, which forces an excretion of unnatural salts by the kidneys, and thus renders the urine acrid and irritating, or they may be suffering from some other disease, such as a deformity or enlargement of certain glands, as the prostate; unnatural position of the organs, as with women who suffer from weakness, the uterus pressing forward on the bladder and urethra, and thus showing every evidence of disease in the urinary canal. It is as common for persons to suffer from deformity of the urinary canal as from misshapen limbs, or from noses and ears not of proper size and proportion.

The urinary canal, from the bladder outward, is narrow and delicate. Any disease or injury therein is liable to result in gradual contraction, which may be manifested long years after the cause has been forgotten, or has disappeared. These affections, to the inexperienced, or the phy-

sician who is not particularly alert and cautious in his diagnosis, are liable to cause error, and he will pronounce a given case Bright's disease, when in reality there is some simple cause for the irritation of the urinary canal, and the pains in the kidneys, etc., all of which frequently result from a slight damming up of the flow of water, and the prevention of free expulsion from the system of the salts of which the body is relieved by the kidneys. They cannot work under pressure. When, from any cause, the flow of water is checked, and, as it were, dammed up so that a slight pressure is put upon the kidneys below, their secretion is most materially interfered with, and the many trains of symptoms that usher in disease of the kidneys, appear.

The true, and only sure way to relieve these conditions, as can be understood by any one, is to remove the real cause. The use of any medicine that stimulates the kidneys to an irritable action, under such pressure, is to be avoided, as it only makes the trouble worse, increases the amount of water that is dammed up, and results in more serious manifestations of constitutional disease; whereas, by merely relieving the choked outlet, the flow of water becomes free, and the kidneys are speedily restored to their natural condition This is well illustrated by the following:

Case 113,396.

As recorded at the Invalids' Hotel. L. C. K., farmer, age 41, married. For a period of nearly ten years, as a result of slight injury, he had suffered from cloudy and unhealthy-looking water, with some burning on passing it; frequent calls to urinate; swelling of the limbs, loss of energy and strength; headache, etc.; gradually there appeared severe pain in the back, at times recurring with a sense of fullness in the abdomen. For a period of nearly eight years he had been constantly treated by physicians at his home, all of whom had investigated his case. He had made several long journeys to consult the manufacturers of a much-advertised "kidney cure," who, after pretending to examine his urine, scientifically (none of the proprietors are physicians), assured him that, without the shadow of a doubt, his disease was Bright's, and that he might be cured by their "kidney cure," which was for sale at all drug stores. For a period of eighteen months he steadily took this "cure," which, he states, he is sure aggravated his disease, as, although his sufferings at times were less, he felt that he was not improving in the least, and that his disorder was not being properly controlled. His home physician went with him on several occasions, consulted with the owner of the proprietary medicine, and was equally mistaken in his diagnosis. After consulting many doctors, all of whom assured him they could give him treatment that would prolong his life somewhat, and make his condition comfortable, but that no treatment would affect his cure, he was induced, by reading our article, heretofore referred to, to consult us. A very thorough examination of the case was made, which resulted in finding two contractions of the urethra, which admitted only the smallest sized probe, and which, necessarily, prevented the free flow of the urine. These were speedily removed, when, much to the surprise of his family physician, who accompanied him, over thirty-seven ounces of fluid were drawn from the bladder. This gave him immediate and perfect relief. The pains and aches in the region of the kidneys, the weakness and tenderness, and the many other uncomfortable symptoms with which he was troubled, all disappeared. From a feeble and irritable invalid, in a few weeks he was converted into a happy and cheerful man. The symptoms of congestion and irritability of the kidneys gradually disappeared, and in thirty days after visiting us he writes that he feels himself entirely sound and well. This gentleman states that he will be pleased to correspond with any one who wishes to learn the particulars of his case, and his full name and address will be furnished to any inquirer.

Bright's disease when fully established is characterized by degeneration of the kidneys. Submitted to examination, after death by this disease, these organs present various appearances. Hence, the degenera-

tion that characterizes the disease has been designated as waxy degeneration. Some pathologists contend that the disease consists of several different renal maladies, all of which, however, agree in the one ever-present symptom of a more or less albumenous condition of the urine.

As to the causes of kidney disease, it may be said that any thing which will give rise to a greater or less degree of congestion of the kidney will induce either a temporary albumenous condition of the urine, or a true Bright's disease of the kidneys. Suppression of perspiration, by exposure to cold and wet, want of cleanliness, deficiency of nutritious diet, liver disease, certain poisons in the system, as of scarlet fever, measles, erysipelas or diphtheria, taken in conjunction with sedentary habits, bad air, excessive mental labor or worry, may each occasion an albumenous urine, and finally result in Bright's disease, but of all causes that appear to produce this disease, none are so prolific as intemperance. A scrofulous diathesis, or habit of body, may strongly predispose to the disease, and chronic kidney disease frequently follows acute rheumatism and the practice of masturbation. In some instances the chronic form of Bright's disease follows an acute attack, but is more often developed slowly and insidiously without any known cause.

The Symptoms of this fatal malady generally appear so gradually that they excite but little or no concern until it has reached its more advanced and dangerous stages. Frequently, a puffy, watery or flabby condition of the face, particularly under the eyes, is the first symptom noticed, and the patient may observe that his urine is diminished in quantity. The urine is sometimes abundant, but generally more scanty than in health, is acid in its reaction, and generally of a low specific gravity. The countenance is generally somewhat pale and bloodless, which, taken with the dropsical condition of the system, and the constant albumenous condition of the urine, points the expert specialist to Bright's disease of the kidneys. Various circumstances and conditions may give rise to the temporary presence of albumen in the urine, and, although albumen may be temporarily absent from the urine even when Bright's disease exists, yet this is not common. There are certain indirect symptoms which point clearly and almost unmistakably to the presence of this disease. These are deep-seated pain or weakness in the back, gradual loss of flesh, red, brown, or dingy urine, more or less drowsiness, and as the disease advances, a smothering sensation, or difficulty in breathing, with dropsical puffiness or swelling. Occasional attacks of nausea and vomiting are common; pains in the limbs and loins, which are often mistaken for rheumatism. Irregularity of the bowels is also common. The skin becomes harsh and dry, not perspiring even under active exercise. Sometimes these symptoms are years in their development, being very obscure at first, and in some cases the disease has been known to prove fatal without the patient having experienced any extraordinary symptoms. With those whose systems are enfeebled by want, intemperance, exposures or disease, as scrofula or

syphilis, the first symptoms usually observed will be a frequent desire to urinate, occasional attacks of diarrhea, flatulency, dropsical swelling of the face, especially under the eyes, and afterwards of the extremities, paleness and increasing debility. Stupor, apoplexy and convulsions are the forerunners of a fatal termination.

Microscopical and chemical examinations of the urine are the only reliable means of diagnosis, and should be often repeated. (See Urinary Signs, in Appendix.) As albumen is often present in the urine without the existance of Bright's disease, it is impossible, except by the aid of the microscope, to distinguish true Bright's from other affections of the kidneys. In both purulent urine, and that containing blood, albumen will be found by the usual tests, but in smaller quantity than in Bright's disease. Albumen, with disintegrated epithelia, hyaline, and large granular casts, as well as waxy casts, are peculiar to, and characteristic of, this disease.

In the treatment of this malady, our specialist's experience has been very great, and attended with marvelous success. Of course, after the substance of the kidney has degenerated and broken down, and become destroyed to any great extent, a cure is impossible. But that we now possess remedies of great value, and specific power over this terrible disease, we have the most positive evidence in the remarkable success attended in its treatment. Most cases that are curable can be managed successfully at a distance, the necessary medicines being sent either by mail or express. Our specialists have cured many in this way who were so bloated from dropsical effusion as to weigh twenty-five to forty pounds more than usual. In our Sanitarium, where we have had the advantage of our Turkish baths and other appliances, we have cured some cases in which the removal of the dropsical effusion reduced the patient's weight sixty pounds.

We cannot, in conclusion, too strongly condemn the general resort to strong diureties so often prescribed by physicians for all forms of renal maladies, but which, by over-stimulating the already weak and delicate kidneys, only aggravate and render incurable thousands of cases annually. Not less harmful are the many advertised "kidney cures," "kidney remedies," "buchus," and kindred preparations. They all contain powerful, stimulating diuretics, and, while they may appear for a short time to do good, invariably render the case worse and far more difficult to cure. The cases of Bright's disease reported cured by these preparations are cases of far less dangerous maladies, made to appear, by exaggerated accounts of them, as true Bright's disease. The use of these general, ready-made or proprietary remedies in any case of true Bright's disease is hazardous in the extreme. In no disease is there greater necessity for treatment nicely adapted to the exact condition of the patient (which should always be carefully ascertained by microscopical and chemical examinations of the urine) than in this. As it is a disease that runs a slow course, there is always time to send samples of

the urine for examination by expert specialists, and no other physician than a specialist of large experience should be entrusted with the treatment of a malady so dangerous in its character, and in the diagnosis and treatment of which general practitioners commit such frequent, and often fatal, errors. (**See Testimonials.**)

DIABETES. (Polyuria and Glycosuria.)

There are two essentially different varieties of this disease, one of which is called *Diabetes Insipidus*, or *Polyuria*, and the other *Diabetes Mellitus*, or *Glycosuria*. The first is characterized by an increase in the amount of urine excreted, and yields readily to proper treatment. The second is characterized by the presence of sugar in the urine, and under ordinary treatment often proves fatal.

The *causes* are obscure, and are therefore not very well understood by the profession.

Symptoms. A notable increase of the quantity of urine excreted is the first symptom which attracts the patient's attention. Frequently, several quarts, or even gallons, of urine are daily excreted, and it is paler than natural. The patient experiences extraordinary thirst, and has an almost insatiable appetite, though at the same time he loses flesh and strength. The tongue may be either clammy and furred or unnaturally clean and red. The bowels become constipated, and a peculiar odor is observed in the patient's breath and exhales from his body. The skin becomes harsh, dry, and scurfy. There are dizziness, headache, dejection, lassitude, and not unfrequently blindness, caused by cataract, is developed in one or both eyes. The intellect is blunted, and, as the disease progresses, the emaciation and debility increase, and pulmonary diseases develop; or, perhaps, an uncontrollable diarrhea sets in, and the patient dies from exhaustion.

In this disease, as in Bright's, we have many medicines that produce specific curative effects, enabling our specialists to treat it with greatly increased success. The disease is readily diagnosticated, or determined, by chemical examination of the urine, so that we have been enabled to treat this class of cases very successfully at a distance, and without personal examinations. Great attention should be paid to the diet in these cases. It should be highly nutritious, but anything of a sweet or starchy nature must be avoided.

The following articles are wholesome and afford sufficient variety, viz.: of animal food—beefsteak, game, poultry, fish, eggs, cheese, cream, butter; of vegetables—spinach, dandelion greens, turnip tops, watercresses, lettuce, celery, and radishes; of drinks—tea, coffee, claret, water, brandy and water, beef-tea, mutton-broth, or water acidulated with tartaric, nitric, citric, muriatic, or phosphoric acid. The *forbidden* articles are oysters, crabs, lobsters, sugar, wheat, rye, corn or oat-meal cakes, rice, potatoes, carrots, beets, peas, beans, pastry, puddings,

sweetened custards, apples, pears, peaches, strawberries, currants, etc., also beer, sweet wines, port, rum, gin, and cider. (**See Testimonials.**)

CHRONIC INFLAMMATION OF THE BLADDER.

(CHRONIC CYSTITIS.)

This affection, also called *catarrh of the bladder*, is an inflammation of the mucous lining of this organ. It may occur at any period of life, but it oftenest appears in the aged, and is usually associated with some obstruction to the flow of urine.

Causes. It may be due to colds, injuries, irritating diuretics, injections, extension of disease from the kidneys or adjacent organs, intemperance, severe horseback riding, recession of cutaneous affections, gout, rheumatism, etc.; but it more frequently results from stricture of the urethra, enlarged prostate gland, gravel, and gonorrhea. It is also caused by an habitual retention of the urine, and sometimes results from masturbation or self-abuse.

Symptoms. There is an uneasy sensation in the bladder, and heaviness and sometimes pain and weakness in the back and loins. The urine is scanty, and, although there is a desire to void it frequently, it is passed with difficulty. If allowed to stand, it deposits more or less mucus, which is sometimes mistaken for semen. As the disease progresses, the quantity of the mucus increases. It is very viscid, and adheres to the sides of the vessels, so that if an attempt be made to pour it out, it forms long, tenacious, ropy threads. Sometimes the quantity of mucus is so great that on exposure to cold the whole mass becomes semi-solid, and resembles the white of an egg. The excreted urine is alkaline, acrid, exhales a strong odor of ammonia, and soon becomes exceedingly fetid. Sometimes the urine becomes so thick that great difficulty is experienced in expelling it from the bladder. Nocturnal emissions, impotency, and loss of sexual desire are apt to ensue. Occasionally there will be a spasmodic contraction of the bladder, with straining and a sensation of scalding in the urethra, and sometimes the patient is unable to urinate.

When ulceration occurs in the progress of the disease, as it is apt to in its advanced stages, blood will occasionally be seen in the urine. In the advanced stages of the disease the system becomes greatly debilitated, emaciation supervenes, with hectic fever, nervous irritability and, finally, death.

Treatment. A strict observance of the rules of hygiene is essential to a cure. We must ascertain the cause if possible, remove it, and thus prevent it from perpetuating the disease. The various causes and conditions involved in different cases demand corresponding modifications of treatment; hence, it is useless for us to attempt to teach the non-professional how to treat this complex disease. We have succeeded in curing many severe cases without seeing the patient, being guided in prescribing by indications furnished by microscopical and chemical ex-

aminations of the urine. (See Urinary Signs in Appendix.) In fact, nearly all cases can be cured at their homes, and without a personal examination being made. In the worst cases, we have found it best to have our patients at our institution, where we can wash out the bladder with soothing, healing lotions, and thus make direct applications to the diseased parts. (**See Testimonials.**)

GRAVEL.

When the solid constituents of the urine are increased to such an extent that they cannot be held in solution, or when abnormal substances are secreted, they are precipitated in small crystals, which, if minute, are called *gravel.* Another cause of the precipitation of these salts is a stricture of the urinary canal which, by interfering with the free expulsion of all the fluid from the bladder, results in the retention of a portion, which gradually undergoes decomposition. Salts from the urine are thus precipitated in the same way that they are thrown down in urine which is allowed to stand in a vessel. Any one can illustrate this, by allowing a small quantity of the urinary secretion to stand for a few days either in an open or a closed bottle. Soon a white, flaky deposit will be observed, which will become more and more dense, and finally fine grains will be seen precipitated at the bottom of the bottle. Similar grains, lodging in the folds of the bladder, gradually increase in size, by the precipitation of more salts around them, and ultimately become a source of much irritation. When of large size, they are termed *calculi* or stones. When these formations occur in the kidneys they are termed *renal calculi;* when in the bladder, *vesical calculi.* There are several varieties of gravel, each depending upon different conditions of the system for its formation. The two prominent varieties are the red, containing uric acid, and the white, or phosphatic, gravel.

Symptoms. When the deposits are in the kidneys, there is pain in the back and loins, occasionally cutting and severe; sometimes it darts down the course of the ureter to the bladder, and extends even to the thighs. When the deposits are in the bladder, there is a frequent desire to urinate, with a bearing-down, straining pain; also a cutting or scratching sensation in the urethra during micturition. In the male, intense pain is often experienced at the end of the penis. When the urine is voided in a vessel and allowed to settle, a gravelly deposit is seen, generally of a red or a white color, and the particles varying in size.

Treatment. These urinary deposits indicate a general derangement of the system, as well as a local disease. Nutrition is imperfect and some of the excretory organs are not properly performing their functions, or, perhaps, some portion of the body is being too rapidly wasted. Very frequently we find these gravelly formations as the result of a rheumatic or a gouty diathesis. It is also a well-known fact that torpidity of the liver throws an excessive amount of work on the kidneys. These organs then, in part, perform the function of the liver, and hence

unnatural activity is required of them, and the secreting of such substances as uric acid, which precipitates readily and gives rise to severe irritation of the urinary canal.

In order to treat these cases rationally and successfully, it is first necessary to ascertain by microscopical and perhaps chemical examinations, the character of the deposit. By such an examination, the exact condition of the system which gives rise to these abnormal products may be definitely determined, and the remedies to be employed indicated. As the non-professional are not qualified to make such examinations, it would be useless for us to suggest specific treatment for the various forms of this affection.

Samples of the urine may be sent to us with a brief description of the symptoms experienced, and the proper medicines to cure can be returned by mail or express. Our specialists are treating, with uniform success, large numbers of cases in this way. (**See Testimonials.**)

STONE IN THE BLADDER.

Few affections to which the human flesh is heir are more painful than this terrible affliction. The cutting operation heretofore required to remove it, is considered one of the most dangerous operations that the surgeon is ever called upon to perform.

The death of the Emperor Louis Napoleon, of France, from an operation for the removal of a stone, at the hands of surgeons renowned for their skill, gave new impetus to the efforts of surgeons to invent some method that would be less dangerous than that which has been heretofore commonly employed. The cutting operations have been the rule. Of these the operation by median-section is the safest, and is most commonly employed for the removal of stones that are not too large, while the lateral operation is used where the stone is more than about one inch in its smallest diameter.

As will be seen by the consultation of any hospital record, the deaths in these various operations have been, in adults, from one in three to one in every four cases—a very large percentage, and sufficient to deter any sufferer from undergoing an operation except for the relief of a condition which is in itself worse than death. Even when this alarming death-rate is explained to sufferers, they willingly undergo the operation, feeling that they would rather die than longer continue in their pain and anguish.

Our specialists, not satisfied with the results of these operative measures, in their studies of the disease endeavored to perfect some other means by which these foreign bodies could be removed from the bladder without such great danger and pain. The operation by crushing, and removal without cutting, appeared to them to present the most practicable advantages, and they therefore devote their entire time to the improvement of this method for the removal of stone.

The method of crushing was first invented by a French surgeon many

years ago; but, owing to his crude instruments, and the difficulty that was experienced in expelling the pieces of stone, the operation was seldom employed by surgeons. The improvements in these methods at the hands of Bigelow and Sir Henry Thompson, with those that have been made by our specialists, have resulted in our being able to present to sufferers with this disease, a means of cure which is, we are assured, the most successful known to modern medical science.

There have been so far in the history of the treatment of this malady by the new method of cure, one hundred and twenty-odd cases operated upon at the hands of prominent surgeons, all of which were with less perfect methods than that of our specialists, and there were but four deaths in this large number. By the advantages which are the result of further improvements by our specialists, we can assure you that this mortality is even less in our hands; in fact, approaches, as near as possible, to a perfect method of cure.

We think that in a moderately healthy subject, one in which the kidneys are not badly diseased as the result of irritation from the calculus, the operation is almost absolutely safe. The method consists in the crushing of the stone, and its removal from the bladder by means of small silver catheters attached to an apparatus which gently and perfectly removes, by suction, all the pieces which are thrown to the bottom of the bladder. This operation has now been performed in our institution in a very large number of cases with uniform success, and the cures have been effected in from six to eight weeks without a single unpleasant symptom arising during their progress. By this method it is not necessary to remove the entire calculus at one operation, if it is a large one. By the old cutting operation this was required, as the bleeding was great, and what was to be done had to be done immediately, or the patient would die from the *hemorrhage*. With the new method a part of the large calculus, or when several exist, one or two of them, may be removed at a time, after which the patient can rest and gain strength for the second; or, if necessary, for the third operation.

The largest stone removed by us in this way was one weighing between seven and eight hundred grains, for which three operations were required. It is necessarily performed under a mild anæsthetic, which prevents suffering and secures the perfect relaxation of the patient. In the case in which this large amount of stone was removed we feel certain that a cure could not possibly have resulted from a cutting operation, as the heart was seriously affected, and the physical condition of the patient so low, as the result of years of suffering, that death would have occurred while undergoing the operation. By carefully pursuing the new method, and not prolonging the sittings more than a few minutes each time, the entire stone was evacuated. The health of the patient constantly improved during the interval of three operations, which covered a space of seven weeks. This stone was as large as a hen's egg.

Small calculi or gravel are readily removed in a few moments' time

by the new method. In no case is there any bleeding. Instead of a large, gaping wound being left after the operation, from which secondary hemorrhage may take place, or poisoning result from the irritation of decomposing urine, the parts are left in a healthy state with the surface unbroken. The stone, a constant source of irritation, is removed, and the health is speedily restored.

When it is impossible for the patient to visit us, a careful examination of the urine is made, and if gravel have been passed, these are carefully examined also. An idea of the composition of the stone is arrived at by this means, and treatment is directed to dissolve it. Success has commonly followed this method of treatment, when the stone has not been very large. With the gradual reduction of the size of the stone the irritation subsides, and the general health of the patient improves. (**See Testimonials.**)

CHRONIC ENLARGEMENT OF THE PROSTATE GLAND.

(HYPERTROPHY.)

The prostate gland lies just in front of the base of the bladder, and surrounding the urethra, or urinary canal. Enlargement, therefore, of this body, if it be of considerable extent, causes it to encroach and press upon the base of the bladder, and to more or less constrict the urinary canal near the base or outlet of the bladder. The enlargement may be only slight, or the dimensions of the gland may be increased from the size of a large chestnut, its normal dimension, to the volume of a pullet's egg, or even to the size of an orange.

Hypertrophy of the prostate generally arises from causes which operate in a slow and permanent manner. Whatever has a tendency to produce a determination of blood to, and an engorgement of, this organ, is capable of producing the affection, an augmented flow of blood to the the part having the effect to increase the nutrition. Among the most frequent causes of this affection, are excessive venery, masturbation, disease of the bladder, stricture of the urethra, horseback exercise, gonorrhea, and the employment of strong, stimulating diuretics. Some of the worst cases that we have had to deal with have occurred in old men, and, in fact, the malady is more common to those advanced in life; but it is frequently produced in those of middle age by the causes enumerated.

Among the earliest symptoms of the disease is an uneasy feeling in the region of the base of the bladder. There is a more frequent desire to urinate than usual, and, in the course of time, this frequency becomes more urgent; still no particular notice may be taken of it, it being considered as "only a slight inconvenience." After several months, or it may be years, the discomfort increases, and nightly calls to empty the bladder become habitual. By and by the patient begins to find the discomfort of getting out of his warm bed very troublesome ; still no notice is taken of it. He does not consider it worth his while to consult

a doctor for "such a trifle." In the course of time the patient is obliged to get out of bed twice during the night instead of once. Afterwards, the calls become still more frequent and urgent; the inconvenience more evident; finally, pain is substituted for inconvenience, and then the doctor is consulted. Unless a specialist of experience be consulted, the bladder will most probably be examined, and medicine will be prescribed only to excite the kidneys to secrete more urine, which does harm instead of good; the disease slowly, but surely progressing. Patients often write us that they have had something wrong with the bladder for a number of years, having to urinate more frequently than they ought; sometimes having to do so three and four times during the night; in extreme cases even every half hour or so, and that they are not able to pass it freely, but only in small quantities, and attended with much pain. These symptoms are not always constant, but let up for a few weeks and then appear again. Things go on in this way for a year or two, perhaps, when the passage of the urine is completely shut off for several hours, and the patient is in great agony until the bladder is relieved by the use of the catheter. After such instrumental relief, for a day or two the urine may be natural again, coming at first, perhaps, in very small quantities, but by and by more freely. Then, after a week or two intervening, there may be another complete stoppage, attended, as before, with intense suffering, which will have to be again relieved by the use of an instrument.

The foregoing is a fair account of the usual progress of the disease and its symptoms. As the prostate gland becomes more irritated and inflamed from the natural progress of the disease, or from the irritation caused by the passage of instruments, or the employment of strong, harsh, stimulating diuretics, the urine becomes cloudy, and still later is found to have deposited during the night in the chamber utensil a quantity of thick, tenacious, and usually offensive mucus. There is apt to be more or less discomfort in the rectum, or lower bowel, produced by the pressure of the enlarged prostate upon it. Rarely, the first intimation of a large prostate occurs through a sudden retention of the urine, and the patient being under the impression that there was nothing wrong with the organ previously. Closely questioned, however, the information is elicited that there has been a long train of mild symptoms, similar to those that we have described, preceding the attack of retention of the urine. This shows the importance of early attention and proper treatment when such symptoms are manifested. However slight the inconvenience experienced, it should not be neglected. The disease should be brought under control at the outset by skillful and nicely-adapted treatment. Usually before a person suffers from toothache, the decay occasioning it has been gradually progressing without pain for from five to eight years. Just as the decay of the tooth may be arrested by the early attention of the dentist, so may prostatic disease by early attention be not only promptly relieved, but permanently cured.

Disease of the prostate being slow in its inception and progress, is also slow to yield even to the most skillful treatment. Being slow to develop, patients rarely seek assistance until the organ has become so large as to be seldom restorable to a size where mechanical means can be wholly dispensed with for relieving the bladder. Most surgeons are too much in the habit of depending on the catheter for the relief of the patient, and usually instruct the sufferer how to use it, telling them that this, the catheter, is to be their only doctor for life. Great as is the relief afforded by the catheter, which has often saved life, yet it is a fact that its frequent and prolonged use often renders disease of the prostate very intractable and often wholly incurable. Frequent use of the catheter, without any treatment to prevent the further enlargement of the diseased gland, or to reduce its size, permits the part to go on enlarging, and, besides, the constant use of the catheter irritates the prostatic portion of the urethra, causing thickening of the lining membrane, and sooner or later a more or less complete organic stricture of this canal, depending upon thickening of the lining mucous membrane, as well as upon the encroachment of the gland itself upon this canal. Besides, when the use of the catheter is once commenced, even when the enlargement is not very great, it is with the utmost difficulty that we have been able to induce patients to leave off its use. The bladder, becoming accustomed to its use, refuses to obey the will without this help. The irritation set up in the parts by the friction of the catheter causes inflammation and exudation in the lining membrane. This extends to the structure of the prostate itself and increases the hypertrophy or enlargement. It will, therefore, be seen how important it is to early resort to treatment to relieve the first manifestations of this affection. A disease of so delicate a nature, and one so often confounded with other maladies by inexperienced physicians, should only be intrusted for treatment to expert specialists of large experience in the management of this and kindred maladies.

STRICTURE OF THE URETHRA.

Stricture of the urethra generally results from some specific disease of the urethra, but may be caused by sexual excesses, exposure, or strain, or by the practice of masturbation or self-abuse. It runs a course varying in time from a few days to many weeks or months, during which time the patient is often unaware of the real cause of his sufferings.

Commonly, the attention is first called to a stricture by a slight discharge, or smarting sensation, or the appearance of an undue amount of mucous deposit in the urine. Occasionally, some difficulty in starting the water, or a diminution in the size and force, or a twisting of the stream as it flows, is the first symptom. This passive stage is of variable duration. When skillful treatment is instituted at this stage of the disease, a speedy cure is easily effected without pain or danger. Any

Fig. 2.

A Single Stricture of the Urethra.

exposure, improper use of instruments, or irritating cause, may speedily give rise to the alarming symptoms due to closure of the urethra, from which fatal consequences may suddenly ensue.

This condition is illustrated in Fig. 2, which shows the hard and tough stricture which surrounds the soft mucous membrane that lines the urinary canal. When irritated or inflamed, as the result of a cold or other cause, the mucous membrane becomes swollen and thickened, and, as the stricture will not yield and enlarge, the result is that the urethra is almost completely closed, and it becomes impossible to pass the urine. Great pain is experienced, and the surgeon has to be called to draw off the urine with a catheter, which, at best, is a very difficult and painful operation, when the urethra is so irritable and constricted.

Treatment. In the earlier stages of the malady, relief is given by the skillful use of instruments for dilating the canal, or, where this fails by the operation of urethrotomy, for which we employ an improved

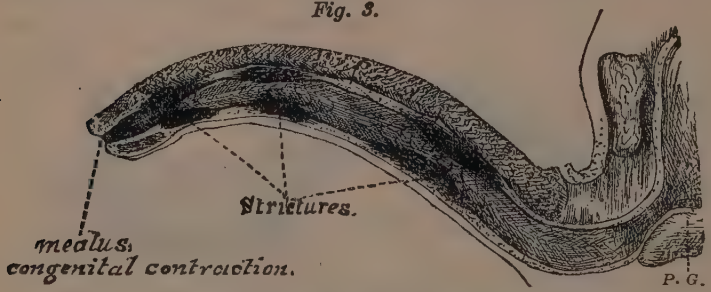
and ingenious instrument, by which the stricture is readily and almost painlessly divided.

Improved Methods. Our surgeons have operated upon many hundreds of bad cases by a very ingenious and almost painless method, that requires no use of bougies in the after-treatment. This saves the patient an immense amount of pain and annoyance, and enables him to go home almost immediately after the operation.

The ordinary after-treatment, by dilatation with bougies, is very tedious, and often more painful than the operation itself, so that our peculiar method of treatment has been hailed with joy by those familiar with the old and unnecessarily-painful systems of treatment. Besides, our more improved method has been followed by far more perfect cures in every case operated upon.

In many of the cases coming under our observation and treatment, there have been several strictures, as illustrated in Fig. 3, which shows the urethra constricted at three different points, besides a congenital contraction at its mouth or meatus.

Fig. 3.



Condition of the Urethra with three Strictures and a congenital contraction at the meatus or outlet.

Spermatorrhœa not infrequently results from stricture of the urethra, even when the affection is quite slight. Our attention was first called to this subject by the consideration of the numerous cases in which epileptic convulsions or "fits," and other serious diseases of the nervous system in children, have resulted from an unnatural contraction of the prepuce or foreskin, constituting what is termed *phimosis.*

Every surgeon of experience has met with many of these cases of reflex irritation. It occurred to us, that, inasmuch as these contractions of the foreskin give rise to nervous diseases of an alarming nature, may not an unnatural narrowing of the urethral canal, which must have exactly the same effect in retarding the flow of the urine, give rise to irritable nervous affections in adults. May not unnatural irritation and excitement of the sexual organs, so set up, cause loss of semen to occur during sleep, and consequent nervous and general debility?

It is a well recognized fact that the urethral canal should bear a cer-

tain definite and proportionate size to that of the penis, just as the length of the arm should naturally bear a certain proportion to the length of the body. In the case of some parts of the body, disproportionate development of the part may not give rise to anything further than unsightliness; but when we find the small size of the urethra retarding the free passage of the urine, then we may expect, if this condition is long continued, to find more or less irritation of the urethra and, perhaps, of the bladder, also. When there is a contraction of the urethra at its external orifice, or at any point along its course, unnatural pressure is put upon the urinary canal behind the constricted portion, and these parts must bear an undue strain during the passage of the urine.

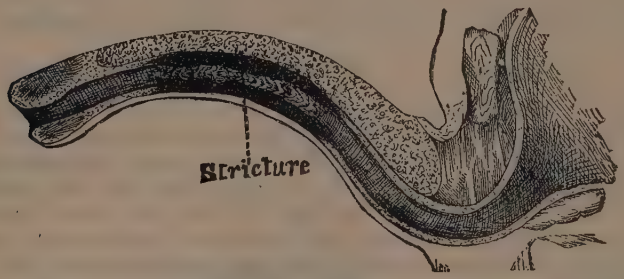
It is a well established fact that improper diet, cold, exposure, and over-work exert a very powerful modifying influence upon the urinary secretion, frequently causing an acrid and irritating condition of this fluid. This condition, when associated with a contracted urethra, must result in irritation of the mucous membrane lining this canal back of the stricture, if long continued or frequently repeated. As an illustration, we have a hose pipe from which, by means of a small nozzle, water is expelled a considerable distance, but a great tension is put upon the hose behind the nozzle. If the pressure is increased greatly the hose will burst; but, if the small nozzle be replaced with a larger one, the projection of the stream will be quite as great, but all undue tention of the pipe is overcome and the danger of bursting is done away with. We have, in an unnaturally contracted urethra, a favorable condition for the development of disease in the urinary canal and adjacent parts of the generative organs. Irritation is set up in the urethra behind the stricture by undue strain in passing water, and the frequent reoccurrence of acrid urine, as the result of any of the causes we have already mentioned, this irritation keeps gradually increasing. It will be felt more during the periods when the urine is acrid, but may pass unnoticed even at such times. The seminal sacs and the prostate and Cowper's glands communicate with the deeper portions of the urethra by means of canals or ducts, lined with mucous membrane which is continuous with the urethral mucous membrane. Hence we can readily see that not only by reflex nervous irritation are those parts debilitated, through the contraction of the urethra, but the affection is apt to extend by continuity of the mucous membrane, and thus become more and more manifest, through symptoms of disease of the testicles, prostate gland and seminal vesicles, and these disorders become more and more seated the longer the morbid condition of the urethra is allowed to run on, until there may be an entire loss of the sexual functions, occurring at an age when there should be present the most vigorous manhood. From no other cause can we explain the common prevalence of disease of the deeper portions of the urethral canal and bladder, many times confounded with other diseases of the urinary and generative organs.

The following is the history of a case that fully illustrates the foregoing statements:

Case 112,289. Mr. O. C. E., single, 32 years of age.

He applied to us suffering from entire loss of the sexual function, with great nervous debility, and there was a thin slimy discharge from the urethra, and the usual symptoms of melancholia and weakness. He had lost all taste for business, and was extremely nervous, from the fact that he was engaged to be married, and felt that his condition would not permit it. On examination a contraction of the urethra was found at the point shown in Fig. 4, which had probably been present for years. He stated that he never had been just right in those parts, but had lived

Fig. 4.



Condition of the urethra in Case 112,289; permanently cured at the Invalids' Hotel and Surgical Institute.

a virtuous life, had never had any venereal disease, and, hence, the true nature of his trouble had not been suspected. With the removal of the stricture there was an immediate improvement in his condition, which became more and more rapid, as his system gained strength and reaction became manifest. At the end of two months he wrote that he felt sound and well, and that he had experienced the most wonderful improvement in every way. His vital strength was fully restored, and he was most profoundly grateful.

Chronic inflammation of the bladder, sometimes called catarrh of the bladder, an affection that is elsewhere herein fully treated of, and chronic inflammation of the kidneys, and true Bright's disease, as well as prostatic disease, are all liable to result from strictures of the urethra. Hence, it behooves one suffering from this malady to have it promptly and skillfully treated.

False Passages. In very rare cases of impassable stricture, or in which fistulous openings, or false passages, have formed, through which the urine flows or dribbles away, we have resorted to the operation of perineal section with the most gratifying results. The cases requiring this operation are rare ones, in which death must generally result but for the relief afforded by the operation.

Dangerous Use of Instruments. The worst and most dangerous cases of stricture with which we have met, in a long and extensive experience, were rendered thus by the careless or unskillful use of bougies, catheters, or sounds. Many surgeons and physicians are most recklessly careless or unskilled in the use of these most dangerous instruments, as the many cases of false passage or stricture of the most painful

and dangerous kind, caused or aggravated by their ignorant or improper use, sorrowfully testify.

Delay Dangerous. By proper treatment of stricture in its early stages, all danger and pain are avoided, and a cure is effected in a very short time. In an extensive practice, in which we yearly treat hundreds of cases, we have never yet failed to give perfect and permanent relief from stricture, or diseased prostate or urethra, without the necessity of cutting instruments of any kind, when we have been consulted before injury of the urethra has been produced by improper use of instruments. Having specialists who devote their entire time to the study and cure of these diseases, we are thereby enabled to attain the highest degree of skill in the management of these cases.

Great Skill Required. The urethra is a sensitive and delicate canal, and is surrounded by tissues the most delicate, and lined with mucous membrane which is highly vascular and filled with sensitive nerves. The introduction of any instrument is to be undertaken only when absolutely required, and, when necessary, it should be so skillfully and carefully effected that no pain or irritation can result. The slightest awkwardness is liable to cause an unnoticeable injury, which results in false passage or an effusion of plastic lymph around the canal, and as it organizes, the formation of the most troublesome organic stricture. The attention not only of sufferers, but also of the profession, is called to the remarkable success of our operation, perineal section, by which a cure of extremely bad cases of impassable stricture and false passages, or urinary fistulæ, is effected in from thirty to forty days, and with very little suffering. That we have been successful in such cases must be considered as conclusive evidence that no case of stricture, false passage, or urinary fistula, is beyond the reach of our skill.

TESTIMONIALS.

In a practice embracing the treatment of a vast number of cases of diseases of the Urinary Organs, it has been our good fortune to effect many remarkable cures. The experience gained in this field of practice has made our specialists skilled experts, and hence hundreds consult them as a last resort. In fact we seldom get a case, in this line, that has not been the rounds of the home physicians before applying to us for relief and cure. The cures, therefore, which we shall introduce here are the more remarkable because of the failure, in nearly every case, of other medical men to benefit or cure. They are not the every-day, ordinary cases met with in the general practitioner's rounds, but complicated, obstinate ones, which had generally been given up as hopeless before coming to us.

Case 4A-3431. "WASTED TO A SHADOW." BLEEDING FROM KIDNEYS. A SEVERE CASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I think it my duty to write to you concerning my case. In the year 1886 I was seized with inflammation of the bladder and passed nothing but thick blood, owing to heavy work, and I consulted a doctor and he said there was no cure for such a bad case; but he gave me medicine and it relieved me at the time I used it; and I took 16 bottles and I got worse and wasted to a shadow. I quit taking the medicine, and other complaints came, as rupture in the spermatic cord, for which I applied to you and soon got relief. And in 1891 the bladder disease made its appearance, and I wrote to the Invalids' Hotel and Surgical Institute and got no reply as our mails were stopped on account of snow drifts. I sent for the best doctor in Listowell and I still got worse, and he said I might live three or four weeks, but there was no stoppage of the disease. And I got so weak that I had to support myself by the furniture in my room; and I wasted down to 100 lbs. in two weeks; and I applied to your Institute and I received my medicine in a few days, and in two weeks I began to gather strength and now I am hearty and well and my weight is 145 lbs.

T. S. BAILEY, ESQ.

I feel so thankful to the Medical Association and its Staff of skilled men. It is 15 months since I quit taking your medicines and no signs of the disease returning.

Yours gratefully,
THOMAS S. BAILEY,
Dorking, Wellington Co., Ont.

Case 23A-877. INFLAMMATION OF THE BLADDER, WITH OTHER COMPLICATIONS. SUFFERED EXCRUCIATING PAIN IN URINATING.

For many years I suffered with inflammation of the Prostrate Gland and Bladder. It became gradually worse and I endured extreme pain, so much so that I was laid up for weeks at a time, and almost gave up in despair. I was persuaded to go to the Invalids' Hotel and Surgical Institute. I have never regretted following this advice. While there I submitted to an operation by their specialist. This was entirely painless and the result perfectly satisfactory. I left in a short time delighted, and have since been strong and well. I cannot speak in too high praise of this famous Institution; the rooms are large and pleasant, the food the very best, the attendants kind and attentive and the staff of physicians skillful and of large experience. I highly recommend all invalids to the World's Dispensary Medical Association. I feel confident that all the benefit to be derived from medical treatment is to be received at this Institution.

Yours truly,
GEO. W. HEFFNER,
Elwood, Ind.

G. W. HEFFNER, ESQ.

Case 2A-103. INFLAMMATION OF BLADDER, COMPLICATED WITH KIDNEY DISEASE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

M. MANHEIM, ESQ.

Gentlemen—Having been a patient in your Invalids' Hotel for several weeks, I take great pleasure in telling other sufferers of my treatment which I received under your efficient staff of physicians, surgeons and nurses, and I will say with clear conscience that every care and comfort was given me that could be wished for. I am sure that your Institution is far in advance of the age, and would wish that every invalid could avail himself of the treatment that I received in your most excellently kept Invalids' Hotel. I cheerfully give this as my testimonial to individuals, friends and sufferers. My health is so fully restored that I look upon life with pleasure and comfort, whereas before I was a suffering, nervous invalid, unable to sleep and much of the time in torment. Wishing you success,

I am your friend and well wisher,

M. MANHEIM,

Georgetown, S. C.

Case 859,143. BLADDER, RECTAL, KIDNEY AND LIVER DISEASE. "ENTIRE URINARY ORGANS ONE MASS OF SORES." "DESPAIRED OF CURE."

My disease was caused by the roughness and exposure incidental to the life of a miner, working in the gold mines of California and Montana. I had much of the time to work in water, with my clothes wet, which finally brought on a severe pain in my kidney, which ere long completely prostrated me. I employed and was treated by six different physicians, the best I could obtain in my section of country, and who while seeming to understand the nature of my disease, yet gave me no remedy that afforded me any real relief. I grew worse under the treatment of them all. The pain in the kidney left me, but immediately located in the bladder. My bladder became very painful and commenced to ulcerate and fill up. It seemed from the excruciating agony I suffered, that there must have been an abcess in either the kidney or bladder, and from the large amount of pus discharged at one time, it appeared to me that my kidneys, bladder and the entire urinary organs were one mass of sores and pus mixed with blood. I had to use injections of laudanum daily in the lower bowels to ease the pain and live. Was reduced by long suffering, looking for each day to be my last. I felt that no human power on earth could help me. No language can describe, and God only knows, the agony I suffered. From what I have already written, you may form some faint conception of my physical condition at the end of six years' treatment by the best medical aid I could get in the section where I was living. I also used for some time (with no benefit), "Warner's Safe Cure," and in fact, tried every means that I could hear of, but to no permanent relief. Such was my condition when I was led finally to consult and be treated by your Association, though I had but faint hope of obtaining any relief from any one. With the very best description I could give in writing of my case, and all the information you got from me, you would not undertake the case until you were further informed, and for which caution I sincerely thank you. You wrote me—"we are at a loss to definitely determine your condition. We have an opinion based upon the facts before us, but we feel that we must have a personal examination." In the condition I was then in, I could not have been kept alive to reach the first railroad station, which was only six miles from my house, and much less to travel to Buffalo. Indeed I wrote you, that if you would cure me for nothing, I was unable to go to you. In reply, you then advised me to take your "Special Remedies" until I could improve sufficiently to go to Buffalo for examination. Now this frank answer of yours, removed every doubt from my mind, and convinced me that you were *honorable physicians*. On March 10th, 1883, I began taking your "Special Remedies," as you prescribed them, and at the end of three years' constant treatment, I was improved sufficiently to go to Buffalo to your Institute,

S. C. TRACY, ESQ.

where I was examined as you required of me. When I reached your Institute, I was there carefully examined and received a month's treatment. When I reflect on my condition and my suffering when I first began to use your specifics, and see what I am now, I feel that no words can too glowingly express my gratitude to your Association for the physical benefits you have conferred upon me by your treatment of my despaired-of case.

SAMUEL C. TRACY,
Platteville, Wis.

DOUBLE VARICOCELE AND STRICTURE OF THE URETHRA.

C. HANSON, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

Gentlemen—I have taken treatment from you for several months for nervous debility, and although I am not quite fully cured as yet, I have been greatly benefited, and believe, if I had come to you before I was duped and swindled by different quacks and was more dead than alive, I would to-day be a thoroughly well man.

I have also been to your Institute twice for surgical operations, and cannot too highly praise the Hotel, or the skill and care of the attending surgeons and nurses. They are gentlemen in every way and the Invalids' Hotel is just as represented.

I shall advise all suffering from chronic diseases to go to you for relief, as I have never seen any one there who was not cured or greatly benefited.

Very truly yours,
CHRISTIAN HANSON.
Austin, Mower Co., Minn.

Case 23A-890. DISEASE OF THE URINARY ORGANS.

F. A. EMPSALL, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I feel it my duty to give my testimonial in behalf of your grand Institution. I had an operation performed at your place two years ago for the relief of a very painful disease of urinary passage, and, thanks to your skill, I was cured, and have enjoyed the best of health since. I earnestly recommend your Institution to all who are suffering, and still further let me thank you for the kindness I received at the hands of everybody connected with the Institution. I am,

Respectfully yours,
FRANK A. EMPSALL,
P. O. Box 980. Pittsfield, Berkshire Co., Mass.

Case 2A-208. RETENTION OF URINE. SUFFERED INTENSE PAIN.

P. J. HAMILL, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Dear Sirs—To your favor of the 20th ult., would say, that I can only speak in the highest terms of your Institution. After suffering for ten or twelve years with retention of the urine, and bladder difficulties, I can say that I found immediate relief at your hands. When going to your place, about six years ago, I was suffering with intense pain, loss of appetite, and unable to eat a good meal. I now weigh 170 lbs., do a good day's work and feel well in every respect. I am only too glad that I am able to praise your Institution, and can highly recommend it to any one who is suffering as I was. With great respect, I remain,

Yours very truly,
P. J. HAMILL,
Utica, N. Y.

Case 80,115. ENLARGED PROSTATE AND CHRONIC CATARRHAL INFLAMMATION OF BLADDER.

Several years ago I had occasion to become an inmate of the Invalids' Hotel and Surgical Institute, No. 663 Main Street, Buffalo, N. Y. I was afflicted with an enlarged prostate and chronic inflammation, or catarrhal condition of the bladder. I was largely benefited by the treatment I received there, and had I remained a little longer, as I was advised to do by the doctor who attended me, I should have fully recovered. I was so nearly cured that I did not think it necessary to remain longer, as I supposed nature would do for me what remained to be done, to effect a perfect cure. My business was urgent. I could not well remain longer. In this I made a mistake, I should have remained longer. I was seventy-two years old at the time. I bear willing testimony to the ability of the medical staff and the interest the doctors take in the welfare of their patients. The nurses and all the subordinates were very kind and seemed to vie with each other to contribute to the pleasure and happiness of the inmates of the Institute. One will find the Institute equipped with all the improvements known to modern science, for the promotion and restoration of health. It is impossible to do justice to its merits in a short article of this kind. Persons must go there and see and judge for themselves, of the wonders of this extraordinary medical establishment. If they cannot recover their health there, in my judgment, it is of no use to go elsewhere.

ABRAHAM SCHELL, ESQ.

ABRAHAM SCHELL,
Knight's Ferry, Cal.

Case 820,304. OBSTINATE AND COMPLICATED DISEASE.

JOHN H. SMITH, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION:

Gentlemen—Yours of July 12th to hand. I am only too glad to comply with your request. Having suffered for many years with a complication of diseases and feeling conscious that they were rapidly making serious inroads upon my constitution, and that I was speedily becoming unable and incapacitated to attend to my ordinary business, I resolved, after reading a number of testimonials from your patients, to place myself under your treatment at the Invalids' Hotel and Surgical Institute. With heart-felt gratitude I can truthfully say I am relieved of my trouble. I most cheerfully and earnestly recommend this Institution to all who are afflicted with chronic and painful diseases, no matter of what nature. During my stay there I saw some wonderful cures and surgical operations. Yours truly,

JOHN H. SMITH,
Deckertown, Sussex Co., N. J.

Case 520,425. COMPLICATION OF DISEASES.

Without solicitude or hope of pecuniary reward, with heart-felt gratitude and a desire to aid my fellow-man to health and happiness, allow me to state, that as an inmate for more than a month of the Invalids' Hotel and Surgical Institute at No. 663 Main Street, Buffalo, N. Y., I feel warranted in its highest recommendation. While there I saw and talked with a great number of people who came there as a last resort, to be cured of almost every chronic disease to which flesh is heir, and they were unanimous in their praise of the Institution and the skilled specialists who constitute its professional staff.

ANDREW HOLES,
Moorhead, Minn.

ANDREW HOLES, ESQ.

Case 654,500. Disease of Kidneys and Other Complications Caused by Exposure and Malaria.

World's Dispensary Medical Association, Buffalo, N. Y.:

J. W. Dean, Esq.

Gentlemen—Having spent a short period of time at the Invalids' Hotel and Surgical Institute, No. 663 Main Street, Buffalo, N. Y., I must say I found it fully equal in every respect to the claims made for it by the proprietors. It was filled with invalids who were under the care of a corps of physicians and surgeons and the fact that all the sick people appeared to be improving, and that they were both cheerful and hopeful, and that they all spoke well of the Institution and of its doctors, was calculated to inspire confidence in one who went there himself to be treated. The greater number of these cases, as far as I was able to learn, were chronic and of a complicated character. They represented a wide range of the States and Territories of the Union, and had in each exhausted the resources of the home physicians. Having myself been treated by your Faculty for a complication of troubles induced by exposure and malaria, I feel that I owe my restoration to health to your skill and devotion, at a time when I was unable to perform labor and was much discouraged, and had failed to obtain relief elsewhere. You are at liberty to make any use you may desire of this communication.

Very respectfully yours,
J. W. DEAN,
Chariton, Putnam Co., Mo.

Case 620,230. Diabetes and Inflammation of Bladder, Given up By his Home Doctors as Sure to Die in a Few Weeks. Restored to Active Work on His Farm.

World's Dispensary Medical Association, Buffalo, N. Y.:

J. D. Parks, Esq.

Gentlemen—I received your kind letter the 12th, and was glad to hear from you and have no objection to your making use of my name in any way to help the sick and suffering, for I know what it is to be sick. I was sick for seven years; could not do anything; was visited by seven doctors and was treated by four, and was given up to die by one of the best doctors of Russellville. He said I could not live longer than fall. He treated me for Sugar Diabetes, while the rest said I had inflammation of the bladder. After giving up all hopes of being cured at home, a friend got me to write to Dr. Pierce's Institution and after corresponding awhile I decided to go and be treated. I was there one month and I never was cared for or treated more kindly by any one. No parents could have been better to their sick children. I cannot speak too highly of the Institution, and I believe I would have been in my grave to-day if I had not gone and been treated.

I feel great pleasure in expressing to you my sincere thanks for the cure that has been effected in my case, by your very skillful treatment, whereby I am now entirely and I trust permanently cured from a dangerous disease, which had defied the utmost skill of all former medical attendants for the past five years, and from which I had despaired of being relieved. I am happy to state that my health is so good since taking the month's course of treatment at your Institute, and the home treatment since my return, that I am now able to carry on the work of my farm.

I would cheerfully recommend all persons requiring medical or surgical aid to consult you at the earliest possible opportunity, as I know by personal experience that the facilities cannot be surpassed for treatment of all classes of chronic diseases.

Most gratefully yours,
J. D. PARKS,
Homer, Logan Co., Ky.

P. S.—I have always recommended my neighbors to your Institution and was the cause of F. M. Brasher taking treatment, who was cured after two doctors gave him up.

J. D. P.

Case 820,426. COMPLICATION OF DISEASES. A GRATEFUL PATIENT'S WORDS OF PRAISE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

WILLIAM HENKEL, ESQ.

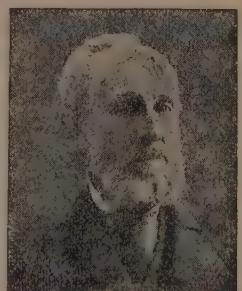
Gentlemen—Having been in your Institution as a sufferer from two distinct chronic diseases of years' standing, and having been placed under the charge of your specialists, I was speedily relieved of my afflictions. The Invalids' Hotel is a place as much like home as it is possible for such an institution to be. The physicians and surgeons are all expert specialists and thoroughly efficient; the nurses are very competent, attentive and kind; and, in fact, the whole *personnel* of the Invalids' Hotel endeavor to do their best to make the patients feel like being at home. I always felt while there as if I was one of the family. I gladly recommend your Institution to all persons who are afflicted with any kind of chronic disease, for from my own experience I *know* the professional staff will do all which they promise to do. Please accept my thanks for the speedy benefits and perfect cure of my diseases, and I think your Institution is worthy of the highest endorsement. Yours truly,

WILLIAM HENKEL,
No. 1917 Congress Street, St. Louis, Mo.

"A question of life or death!"

Case 2A-107. STONE IN BLADDER. CASE SIMILAR TO THAT OF COL. ELLIOTT F. SHEPARD, WHO DIED IN NEW YORK WHILE UNDERGOING AN OPERATION.

Gentlemen—I am seventy-seven years of age and have resided in Erie for sixty-two years, and for thirty-six years have been an elder in the First Presbyterian Church. During four or five years I suffered from a painful affection of the bladder; the severity permitted neither freedom from pain by day nor calm repose by night. Meanwhile, I consulted leading physicians and visited numerous health resorts. Neither time, means nor effort were spared that I might be free from pain. Relief came unexpectedly. A signal act of Providence, that should be acknowledged daily, brought your Institution to my notice, though I had then no acquaintance with any one connected with it. With me it was a question of life or death. Up to last March I was in a condition of unendurable torture. I knew that at my age, after the months of pain already borne, that any operation would be serious, perhaps fatal. Accordingly, I arranged my temporal affairs and carefully "set my house in order." On the 13th of March last, I started for Buffalo to your Institution. Still uninformed as to the cause of my trouble, I submitted to a searching examination, as to my habits, constitution, parentage, the age and cause of death of my parents, and other facts, from which a tolerable biography could have been prepared. All was kindly intended. Their aim was to locate my ailment and then to determine my ability to undergo an operation. Having found a stone in the bladder, they advised that it be crushed and extracted. By a strange coincidence as this was announced, I learned of Col. Elliott F. Shepard's death under an operation for the same disease. He was many years my junior, and seemingly far better able to undergo the operation. Still, in my desperation, I determined to go on. During five days, I was under treatment for the coming operation. On the 18th of March the stone was crushed and extracted. It was a complete success. Of the consideration, tenderness and skill of the surgeon and his assistants, I cannot too strongly speak. Of the gentle and assiduous nurses, the system and completeness of the whole establishment, as it moved along as one harmonious whole, in all its departments, I cannot sufficiently express my admiration. I am now relieved of a state of torture, and restored to health and happiness equal to any period of my life. This I say with sincerity and emphasis. Since then I have gained twenty-two pounds in flesh. I wish my words could reach the ear of every one similarly affected, throughout our land, to banish all doubts and take advantage of the science, skill and pleasant surroundings so happily blended in your Institution, for the removal of pain and the mitigation of distress.



DAVID S. CLARK, ESQ.

DAVID S. CLARK, *Erie, Pa.*

Case 520,123. STONE IN BLADDER. 1200 GRAINS OF STONE REMOVED WITHOUT CUTTING. PASSED BLOOD IN GREAT QUANTITIES FROM THE BLADDER. DOCTORS AT HOME (AS USUAL) DISCOURAGED HIM FROM COMING TO US.

WORLD'S DISPENSARY MEDICAL ASSOCIATION:

Gentlemen—I am glad to make public the wonderful cure that you accomplished in my case. For ten years I was a sick man, and during three years I suffered so much that life was a burden. My business had to be given up and the torments were something that could not be described. Every little while I had to urinate, and each time suffered a spasm of pain, like a knife thrust; the use of a catheter was painful and often it took long and painful trials before the water could be drawn off. I passed blood, in quantities at times. When I went to your place we had given up hope of a cure, and relief was all that I looked for. My doctors at home discouraged me. I spent four weeks in your Invalids' Hotel, and now at the age of sixty-seven years am sound and hearty as any one, work from five in the morning until seven at night. I manage a large and active business and enjoy life. I cannot express my high praise of your Institution. Your doctors are skillful and the nurses all kind and good. All understand their business and attend to it. I came home a new man and cannot say enough for your praise, and to express my thanks for the wonderful cure and comfort I have enjoyed.

JAMES VINE, ESQ.

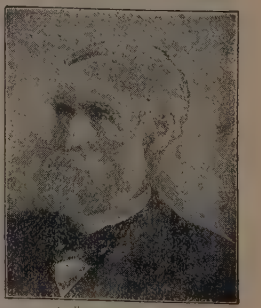
Yours,
JAMES VINE, SR.

P. S.—You removed a stone that weighed over 1200 grains from my bladder, without cutting. The operation gave me complete relief. While there and since, I have seen a great many skillful cures done by you.
J. V., SR., St. Catherines, Ont.

Case 520,610. STONE IN BLADDER—WEIGHT 530 GRAINS—SUCCESSFULLY REMOVED WITHOUT CUTTING. NEIGHBORS TOLD HIM HE WOULD BE "BROUGHT HOME IN A BOX."

WORLD'S DISPENSARY MEDICAL ASSOCIATION:

Gentlemen—Seeing the picture of the Invalids' Hotel and Surgical Institute in our local newspapers, called to my mind the treatment I received there in 1887. I had been suffering for ten or twelve years with bladder trouble, and our home physicians did not seem to understand the cause of the trouble, and I finally corresponded with your faculty, and their advice was to come and have an examination. I had been a great sufferer and was so weak that I could hardly walk from the hotel to the depot, and those who saw me start said that I would be brought home in a box. Soon after my arrival an examination revealed a stone in my bladder. After a few days' treatment to strengthen up the system, the stone was taken out, weighing 530 grains. Four or five others were afterwards taken out of smaller size, and I am still alive. Will soon be seventy-six years old, and I cannot speak too highly of the care and attention I received from the physicians and nurses while there. Everything that was provided was of the best; good food, clean apartments; and no better place can be found for treatment of the many diseases they advertise to cure.



C. A. CHURCH, ESQ.

Anyone suffering from bladder or kindred trouble can find relief at the Invalids' Hotel, Buffalo, N. Y.

Respectfully,
C. A. CHURCH,
New Berlin, N. Y.

Case 620,258. STONE IN THE BLADDER — GREAT SUFFERING FOR YEARS — HEART-FELT GRATITUDE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

I would not be a true man if I did not acknowledge at this time (as I should have done long ago), with words of gratitude, the wonderful relief I received at your Institution five years ago. It affords me the greatest pleasure to say to you and to the world at large, that the treatment and operation I received at your Institution was an entire success and a miraculous cure. After twenty-five long years of suffering such as few people endure, caused from exposure while in the military service of the United States, I contracted kidney and bladder disease, which shortly afterwards resulted in the formation of a calculus or stone. I experimented with medicines, Special Prescriptions, etc., from some of the most eminent physicians in the world, in fact everything that promised relief and help for my kidneys was used, but received no relief, until the bladder discomfort became unendurable. As a last resort, knowing full well that life with me would be very short unless I could receive immediate relief, I went to your famous Institute, where I was treated and operated upon and a large stone was removed from the bladder. The old method of cutting, which is so dangerous, was not employed, but the new and painless process of crushing; this process was an agreeable surprise to me, no pain and no risk, as in the old method of cutting. From the day of the operation I began to improve, and in a few weeks thereafter I returned home to my wife, family and friends, a well and happy man, and I have spent the last five years with ease, comfort and pleasure—a living, walking testimonial for your renowned Institute. Believe me, when I say that words fail me to express to you my sincere gratitude for your marvelous and almost miraculous cure effected in my case. I feel sure no invalid could receive more skillful and kindly attention anywhere in the world. I would urge every sufferer to take treatment at the Invalids' Hotel and Surgical Institute, believing it to be the most skillful, and feel sure that it is the most advanced of the age.

WM. H. MILLER, ESQ.

Sincerely and gratefully yours,
WM. H. MILLER,
Stoyestown, Somerset Co., Penna.

Case 720,402. STONE IN BLADDER ONE AND A HALF INCHES IN DIAMETER SUCCESSFULLY REMOVED WITHOUT CUTTING OR PAIN.

From severe exposure when in the army, I brought upon myself an acute attack of rheumatism, from which I suffered terrible pain. Following this I began to be troubled with my bladder and kidneys. For three years I experienced considerable discomfort. There was severe burning and scalding, and urination caused much pain. I passed two pieces of gravel and became convinced that I had stone in the bladder. Was examined by my home physician, who said there was no stone. I was not satisfied, however, and went to the Invalids' Hotel and Surgical Institute. I was examined by their specialist. After an injection of cocaine and carefully cleansing out the bladder, a stone was found about one inch and a half in diameter, probably similar in its composition to the pieces already passed. I was advised to have it operated upon and removed, which I arranged to do. The process used was their new and painless one of crushing, no knife or other cutting instrument being employed. The stone was readily grasped by the crusher and reduced to small fragments. The evacuator was then introduced and the stone entirely removed. After a few weeks' careful attention my health was entirely restored and I was able to leave for home. I take great pleasure in making public my wonderful cure. I could not speak in too high praise of those who took charge of my case, nor recommend too highly this famous Institution. It is about three years since I was operated on, and have not felt any bad effects since.

THOS. DALTRY, ESQ.

THOS. DALTRY,
Huntington, Huntington, Co., Ind.

Case 820,539. GRAVEL OR STONE WITH CHRONIC KIDNEY AND BLADDER DISEASE. CURED NINE YEARS AGO AFTER BEING GIVEN UP TO DIE.

MR. O. THOMPSON.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

In 1884, at the age of fifty-four years, I was prostrated with Kidney and Bladder complaint and told by the best physicians that I was but ten days out of the grave. I applied to your Institute for help and received treatment, and now after nearly nine years am in comparitively good health. All this time I have been able to do much work and to oversee my farm. Two stones or gravel were passed while under home treatment. No further formations have developed. The many cases I have recommended to you have all been more than satisfied with the results of their treatment. I wish to thank you for the great benefit and care I received at your hands.

Yours truly,
ORVILLE THOMPSON,
Avoca, Steuben Co., N. Y.

Case 859,612. A STRONG ENDORSEMENT.

To whom it may concern:

This is to certify that I took treatment at the Invalids' Hotel and Surgical Institute, Buffalo, N. Y., and I was cured of a chronic trouble that had been maltreated by other physicians. While there I saw a man who had been cured by the specialists, who had before been given up to die by the best doctors in Troy, N. Y. Of course, the case must have been a very stubborn one. I afterwards saw a man here, in Georgia, die, who, if he had been in Pierce's Surgical Institute under the treatment and care of his skilled doctors and nurses, I know would have most assuredly got well. Why? Because it was only a case of *stone in the bladder*, and they are easily cured at Dr. Pierce's Surgical Institute. I think almost any chronic disease can be cured there, if taken in time, judging from my observations while an inmate of that Institution.

H. E. BANKSTON,
Barnesville, Pike Co., Ga.

H. E. BANKSTON, ESQ.

Case 820,260. COMPLICATION OF DISEASES.

WORLD'S DISPENSARY MEDICAL ASSOCIATION:

Gentlemen—It is now about six months since I discontinued your treatment, and as I have had no return of the old symptoms, I consider it unnecessary to take more medicine. When I visited your Institution some two years ago, I had but faint hopes of ever being restored to health, as I was suffering from a complication of diseases. My case was an unusually obstinate one, yet I am satisfied that a cure could have been accomplished in half the time, had I been able to follow your directions in regard to diet more closely. I hereby tender you my sincerest thanks for the kind treatment received while at your Institution. Those days will always be the happiest in my memory. I will close by giving your faculty my sincere thanks, and hope success will crown your business.

Yours very gratefully,
J. F. RITTER,
Medford, Jackson Co., Oreg.

J. F. RITTER, ESQ.

Stricture, the result of injury from falls and accidents, is particularly difficult of permanent cure. The following gratuitous recommendations are from cases belonging to this class who entirely approve of the publication, with full name, photo-gravure and address.

Case 820,507. STRICTURE CURED AFTER MANY OPERATIONS BY OTHER SURGEONS HAD PROVEN TO BE FAILURES.

WORLD'S DISPENSARY MEDICAL ASSOCIATION:

I would state that I am an architect, fifty-two years of age, that about seventeen years ago I fell from a scaffold, a distance of eighteen feet, across a beam, striking upon the perineum. A physician was immediately called and I was treated by him for about eight or ten weeks. A catheter was introduced into the bladder, but caused such intense pain and anguish that it had to be withdrawn. It was tried again but could not be introduced on account of the lacerations in the urethra, caused by the violence used. A consultation was held and an operation recommended. An anæsthetic was used and a cut made through the perineum from the outside into the bladder. A catheter was inserted into the bladder, tied in place and left in position for about eight weeks. After eight or nine weeks the catheter was removed, but it was four or five weeks before the wound in the perineum healed. After a few months I began to have a urinary difficulty, and symptoms of urethral stricture. This condition continued until the urethra was entirely closed, and it was impossible to make water. A physician attempted to pass a catheter, but could not do so. He continued to treat me by the process of dilation for five or six months. I began to feel more comfortable, but the symptoms of stricture would manifest themselves again. I then went to a hospital at Toronto. There I was treated also by the dilating method. The treatment was continued for about four weeks, but became so very painful, and there was so much irritation in the urethra, that it was impossible to endure it longer. They then called an electrical specialist and he began treatment by electrolysis. In about three weeks I went home, but in a short time the stricture again manifested itself; the contraction was very marked, and micturition very difficult. It grew gradually worse and I could not receive any comfort or benefit. I returned to Toronto to take further treatment from the electrical specialist. During the operations of dilation of the urethra, I passed some gravel. After four weeks' treatment I returned home, but in about two months was as bad as ever, and last October went back to Toronto and was again treated by the electrical method. The doctor had much difficulty in inserting the smallest catheter, and it caused intense pain and suffering. The last time he attempted to insert a catheter, there seemed to be something give way, and a large amount of pus and fluid passed from the rectum. The physician told me an abscess had formed. I returned home and tried to keep as comfortable as possible, but could not micturate with any degree of satisfaction or comfort. I gradually began to grow worse and there was a return of the stricture with inflammation of the bladder. In March, 1892, there began to be formed gravel in the bladder. They would at times obstruct the flow of urine entirely. I kept going from bad to worse, until the urethra appeared to be entirely closed. The physician I called found it impossible to pass a catheter into the bladder, and advised me to go to some hospital where I could receive proper treatment, and where proper appliances for this class of cases were used, as he felt satisfied nothing could be accomplished for me at home. I then came to the Invalids' Hotel and Surgical Institute in Buffalo to receive treatment, and the treatment has been so successful that the urethral stricture as well as the gravel have been removed. After I returned home I felt as if a great load had been lifted from my shoulders. I have no irritation at all as I used to have, and I can keep my water for six or seven hours without any trouble, and the water seems to be clear and free from sediment of any sort, and in general I feel as I never expected to again. The doctors here were dumb-founded at the short time I was in getting fixed at your Institution, and feel ashamed to ask any questions as to treatment. Many months have passed and I continue well and active in my profession. Any one I can send the way of your Institution you may be sure I shall do so, and thanking you personally for your kind and successful treatment of my case,

ARCHIE RITCHIE, ESQ.

I remain ever your well-wisher,

ARCHIE RITCHIE, Architect,
Mount Forest, Ont.

GRATEFUL LETTER FROM A PROMINENT ARCHITECT.

TO THE WORLD'S DISPENSARY MEDICAL ASSOCIATION:

Gentlemen—It is again with the greatest of pleasure that I write you after twelve months since I was treated in your Institution, to add to my former testimonial. With the blessing of good health I have been able to attend to my business as well as ever, and have the greatest of comfort in every respect, and feel about ten years younger than I was when I came to your Institution for treatment, and I have still again to thank you, gentlemen, for the kind and courteous attention I received from every one I came in contact with in your Institution, while under treatment, and shall ever remember my visit to your Hotel with pleasure, and shall advise any one suffering under the same trouble, with whom I may come in contact, to come to your valuable Institute for treatment, where they can have the best of attention and skill. Again thanking you, gentlemen, for what you have done for me, I hope that your Institute may long be kept up to minister to suffering humanity. God bless your staff of physicians, and may success attend you, is the wish and prayer of ever your well-wisher and grateful patient,

ARCHIBALD RITCHIE,
Mt. Forest, P. O., Ont.

[*See Mr. Ritchie's former communication, on page 857.*]

Case 2A-126. PAINFUL IMPEDIMENT TO THE ACTION OF URINARY ORGANS.

EDWARD COMPTON, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION:

This is to certify that I have been to the Invalids' Hotel and Surgical Institute, at Buffalo, N. Y., for treatment, and cannot speak in too high terms of the staff of physicians and surgeons, or of the treatment which I received. I consider the Hotel one of the best in the country, the table being excellent, and the treatment the very best to be found in the land. It is a most pleasant place to stay. The attention which is given by the nurses could not be better. As surgeons I think your specialists possess the finest skill that can be found. Any person suffering should not delay, but go at once and be treated and get well. You are at liberty to use this endorsement in any way that will do the most good.

With gratitude, I remain,
EDWARD COMPTON,
Chillicothe, Ill.

Case 620,380. STRICTURE, THE RESULT OF INJURY—CURE PERMANENT.

The stricture, which resulted from an injury, had been greatly aggravated by uric acid crystals which were continually forming in the urine. Patient had rheumatism, causing this acid state of the system. He had been a great sufferer for many years, continually experiencing the nervousness, smarting, pain and burning, with occasional attacks of urethritis, common to the malady in this form. This made the stricture almost unbearable, and he was practically incapacitated for his labor at the time that treatment was undertaken in our Institution. He had been to the Hot Springs and in the care of other physicians with no satisfactory results. The relief of the stricture by our new and painless method was followed by very great improvement in his condition, after which appropriate remedies for the rheumatism were administered, and the result was a very gratifying and satisfactory relief from his difficulty. Patient afterwards embarked in business as a proprietor of a hotel of his own, and has been ever since very active in carrying on the business, and extremely successful. The stricture showed no tendency to recur, as is commonly the case where it is cured by other methods than employed by us. Many years elapsed from the time that it was treated before the testimonial appended was written.

MR. FAY SAWDY.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Dear Doctors—I want to thank you, but words cannot express my gratitude, for

your treatment while at your Institution, but I will say for the benefit of persons afflicted with stricture, that I was entirely cured by you, and after several years have not seen any signs of its returning. Yours truly,

FAY SAWDY, Proprietor Hotel Sawdy,
Earlville, Madison Co., N. Y.

Case 551,864, URETHRAL STRICTURE—NASAL CATARRH—CURED IN TWENTY DAYS—A PREVIOUS OPERATION BY A NASHVILLE (TENN.) SURGEON UTTERLY FAILED.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

In September, 1886, I was examined by one of your able staff of physicians and was found to be suffering with a bad form of nasal catarrh and with two strictures in the urethra (water passage). After a few days' general treatment, I was operated upon and turned over to be cared for by the nurse, from whom I received all the attention that was necessary. To my utter astonishment I was dismissed in twenty days from the Surgical Institute, cured of the stricture. I had been operated on by one able surgeon of Nashville, Tenn., and was worse after the operation than before. I have never had a symptom of the stricture since I was dismissed from the Invalids' Hotel and Surgical Institute, and have been in better health than ever before in my life. Very truly,

S. A. D. SMITH,
Laurel Hill, Tenn.

S. A. D. SMITH, ESQ.

Case 820,201. STRICTURE OF THE URETHRA OF THREE YEARS' STANDING — COULD PASS URINE ONLY IN DROPS AND WITH GREAT PAIN.

FRANK BRENDELL, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION:

Gentlemen — Wishing to add my testimony as to your great skill in surgery, I will say that I suffered with stricture of the urethra, due to an injury, for about three years. It became so bad that at times I could pass water only in drops and with great pain. I went to a doctor here, who used sounds which helped me for a time, but in less than six weeks I was worse than ever. Hearing of your place, I came to you and had a painless operation performed, and have ever since been thoroughly cured. I experience no trouble or pain. It is three years since I had the operation, and the cure has proved permanent. You have my deepest gratitude. Yours truly,

FRANK BRENDELL,
Olean, Catt. Co., N. Y.

Case 820,472. COMPLICATED AFFECTION OF NERVOUS SYSTEM AND URINARY ORGANS.

To the afflicted with chronic Diseases:

It is with great pleasure that I refer to the successful treatment, together with the kind care and attention received at the hands of the professional staff, both physicians and nurses, of the world-renowned Invalids' Hotel and Surgical Institute. In every way it verifies their statement — "Not a hospital but a pleasant remedial home," and as such I add my name to the thousands who know and recommend it to the afflicted. Not only was this true in my own case, but in many which came under my observation while there, so I say to the afflicted—visit them if you can and if your case (no matter of what character) is within human skill, you will never have to regret it.

Very sincerely yours,

EDWARD J. ARCHER,
Plainwell, Mich.

E. J. ARCHER, ESQ.

Case 520,408. STONE IN THE BLADDER.

ROB'T WORTHINGTON, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION:

Gentlemen—For six years I had been a great sufferer from stone in the bladder. The discomfort increased, until it almost became unbearable. Hearing of the universal success of the specialist at the Invalids' Hotel and Surgical Institute, in similar cases, I went there and submitted to an operation. The method employed was their new and painless one of crushing, no knife or cutting instrument being used. I felt no pain afterward, there was no fever, and I could have gone home the day after. The operation was witnessed by one of my friends, who says it was very artistic and done with skill. It was a complete success, for I have not been troubled in the least, although nearly seven years have passed.

I feel that I cannot speak in too high praise of this renowned Institution and its staff of skilled physicians. No invalid need fear to place himself under the skillful treatment and kindly care to be received there, for I am confident that all the benefit known to medical science, can be obtained at the Invalids' Hotel and Surgical Institute.

ROBERT WORTHINGTON,
Staunton, Fayette Co., Ohio.

Case 114,747. NERVOUS DEBILITY, DYSPEPSIA, KIDNEY AND LIVER DISEASE—CURED.

WORLD'S DISPENSARY MEDICAL ASSOCIATION:

Gentlemen—I take pleasure in informing you that the treatment you gave me for the relief of an affection of the spine and nervous system, disease of the digestive organs, kidneys and liver, has been entirely successful. I had feared that my health was gradually being undermined, prior to entering your institution, and I can testify to the perfect appointment that you have, the excellent apparatus for the administration of electrical and other massage treatment and baths. My relief was most satisfactory, and the cure has remained permanent.

I take pleasure in recommending your institution to the afflicted, believing that you have the very best treatment for chronic diseases known, and I have had an opportunity to satisfy myself, from conversation with other invalids in your Institution, of the care and skillful treatment that you administer, and its excellent effects. I believe that it is fully abreast of the times, and equal to any institution in the world.

With many good wishes and thanks for my cure, I remain,

Yours truly,
B. V. WRIGHT,
Graniteville, Middlesex Co., Mass.

B. V. WRIGHT, ESQ.

Case 790,598. DIABETES CURED BY HOME TREATMENT.

MRS. WOODRUFF.

To whom it may concern:

This is to certify that for a number of years I was a constant sufferer, and what was many times termed a hopeless victim of that terrible disease, diabetes. The symptoms were indeed alarming; my strength being so completely exhausted that my walking from room to room was attended with difficulty. My nerves were in a constant tremor, and in fact no other words than that, "I was completely out of fix all over," will express my condition. Having purchased a bottle of Dr. Pierce's Favorite Prescription for my daughter, and in looking over the directions of the accompanying circular and finding my own case so thoroughly described, I decided at once to give his special home treatment a trial, which I did during the three months that followed. This proved to be all that was required for the restoration of my usual health, and during the four years which have since elapsed I have had not the slightest reason for believing otherwise than that a perfect cure has been effected, and can most heartily

recommend Dr. Pierce's medicines and treatment to any or all who may be suffering with kidney complaint in any form. Very sincerely yours,

MRS. MARY A. WOODRUFF,
Columbus Junct., Louisa Co., Ia.

Case 795,590. INCONTINENCE OF URINE — CURED BY SPECIAL HOME TREATMENT.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Dear Sir—I consider myself duty-bound to you and suffering humanity to acknowledge the benefit that I have received from your treatments. From babyhood till I was twenty years old I was continually bothered with a weakness of the muscles of the bladder, that gave me much trouble, both by night as well as day. I doctored with several physicians and tried all patent medicines, but could not get any relief until I took your medicine about six months, and now I am sound and well. It has been over two years since I quit taking your medicine, and have had no symptoms of the disease returning.

Yours most gratefully,
MISS MOLLIE RICHMAN,
North Cove,
Pacific Co., Wash.

MISS RICHMAN.

Case 4A-2,226. BRIGHT'S DISEASE AND GRAVEL CURED BY SPECIAL HOME TREATMENT.

J. W. THOMPSON, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Dear Sir—You have my thanks and best wishes for your success, as you cured me of what the doctors here called Bright's Disease and Stone in the Bladder. They did me no good, so I concluded to write to you, which I did, and am happy to say your medicine worked like a charm. God and myself only know how I suffered. I lost fifty-six pounds of flesh in six weeks and I thought my time had come, but when I commenced taking your medicine, in three days I saw a change for the better was taking place, and in one month I considered myself cured. I am still in good health and can do as hard a day's work as any man. Again I thank you. Your charges were reasonable and any one suffering as I was should write you at once.

Any person writing to me must send stamped addressed envelope if wanting an answer.

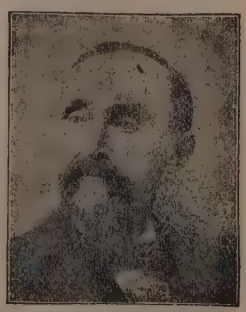
J. W. THOMPSON,
St. John, Whitman Co., Wash.

Case 2A-223. INFLAMMATION OF THE BLADDER. RETENTION OF URINE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—I had been a terrible sufferer for many years with Bladder trouble. I had experienced the greatest discomfort, and tried in vain to find relief. I was persuaded to go to the Invalids' Hotel and Surgical Institute. I went and while there submitted to a course of treatment that gave me relief, and was entirely satisfactory. Three years have elapsed and I continue well. I take the greatest pleasure in making public my cure. No sufferer going there can fail to receive all the benefit to be derived from medical treatment. The staff of physicians are skillful and of large experience; the attendants kind and attentive, and the Institution, in all its appointments, not to be excelled in the country. I had been told by other physicians, jealous at your success, not to go to your place, but I am now more than pleased that I disregarded their advice.

E. A. BROWN,
Corfu, N. Y.



E. A. BROWN, ESQ.

RUPTURE.

(Breach or Hernia.)

By the term *Hernia*, we mean a tumor, which is formed by the displacement of the intestines, the omentum (covering of the bowels), or both, and which protrudes from the abdominal cavity. The most common varieties are *umbilical*, *inguinal* and *femoral* hernia. Children are most subject to umbilical, males to inguinal, and females to femoral, hernia.

Causes. These are either *predisposing* or *exciting*. Any thing which occasions general or local muscular debility, as dropsy, pregnancy, abscesses, wounds, obstructions to natural evacuations, etc., is a predisposing cause of hernia. The exciting cause is pressure applied to the contents of the abdomen, as straining in evacuating the bowels and bladder, lifting heavy weights, or violent physical exertion.

Fig. 1.

INDIRECT INGUINAL HERNIA.

Sketched from a case subsequently cured by our improved method of treatment.

Symptoms. The only characteristic symptom of hernia is the presentation of an elastic, or doughy tumor of variable size, which either gradually or suddenly makes its appearance. There is flatulence, uneasiness, and somestimes pain in the abdomen.

Sharp and dull pains frequently recurring and confined to the locations where ruptures appear should receive attention. Examination will not infrequently reveal a small enlargement. If a hernia, this will usually disappear after a night's rest and may not be again noticed until the next day, or for several days. On

coughing, with the finger applied to the enlargement, a sensation of an impulse (succussion), or slight additional protrusion will be felt.

The trouble appears at any time of life, an analysis of seventy thousand cases indicating that it is most common in debilitated persons, and that there is a constant decrease in the frequency of the affection from the first to the thirteenth year, after which rupture is more and more frequently met with as age advances.

Inguinal Hernia (see Fig. 1) is more common than all other forms of rupture. It is more frequently met with in men, and when severe there is usually a mass of intestine which falls into the scrotum and has an evil effect, by pressing upon the testicle. The protrusion follows the spermatic vessels and hence it usually appears low down in the abdomen and on one or both sides of the pubic bone.

Fig. 2.

This figure illustrates a case of Femoral Hernia which was radically cured by our improved method. This tumor is a little lower on the thigh than in cases of inguinal hernia. Femoral Hernia is most common in females, and inguinal in males.

Femoral Hernia (see Fig. 2), most common in women of mature life, is felt as a lump below the strong ligament in the groin which forms the line of separation between the thigh and the abdomen. On its outer side and close to it can be felt the beating or pulsation of the large artery of the thigh.

Umbilical Hernia (see Fig. 3) appears at or near the navel and is most common in children. It may be present from birth, or it may result from fretting and crying at any period of childhood.

Sufferers from any form of rupture are constantly subject to

the danger of strangulation. This occurs when, from any cause, the free return of the contents of the protruded part of the intestine is prevented. It is an accident of a serious nature, inasmuch as nearly fifty per cent. die if not carefully operated upon, and with the most skillful treatment, one in four cases terminates in death.

Every individual should guard against rupture by maintaining, by proper exercise, diet, and rest, a condition of vigor and tonicity of the muscular system.

When debilitated, all strains and exertions should be carefully avoided until the health is built up, aud the relaxation overcome.

Fig. 3.

UMBILICAL HERNIA.

Sketched from a case subsequently cured by our new method.

Treatment. The palliative treatment of hernia is by *reduction* and *retention*. Reduction consists in returning the protruding intestine to its proper place through the opening by which it escaped. This is accomplished either by manipulation or by a surgical operation. Retention is effected by wearing a mechanical appliance called a *truss*.

As soon as the tumor protrudes, or the "bowel comes down," the patient should assume the recumbent posture, with his shoulders and feet elevated. The patient or an attendant should grasp the hernia, and with gentle, but gradually increasing pressure upon the tumor attempt to replace it. At the same time let the patient knead the bowels upward by pressing upon the integument, so that the intestine may, as far as possible, be pushed away from the point of protrusion. Sometimes the contraction of the muscular fibres at a point where the hernia makes its exit is so great that the tumor cannot be replaced. In this case the system should be relaxed with lobelia (not given in doses

to produce vomiting), and as soon as the patient is thoroughly under its influence, the manipulations may be resumed. When there is any difficulty experienced in putting back the "breach," or rupture, professional assistance should be promptly summoned. After the reduction of the rupture, a truss should be properly adapted, applied, and constantly worn, to prevent the protrusion of the intestine.

Of the latter instruments there are several hundred varieties for sale throughout the country. With the exception of about one-half dozen forms, which embody the true principles of a proper truss, they are, without exception, harmful. Unless proper support be given to the walls of the abdomen, and that without constant pressure, a truss does harm; then, too, the shape of the pad must be such as to avoid pressure where it is not required; otherwise, as in the case where a small ring is worn upon a finger, there is a gradual loss of strength and a depression formed in the healthy tissue, which can be plainly seen and felt. In this way trusses do harm, and such evil consequences may follow the *improper* application of a *good* truss.

Fig. 4.

The above cut fairly illustrates a case of Double Inguinal Hernia, complicated with Hydrocele, cured at the Invalids' Hotel and Surgical Institute.

Surgical Treatment. When the hernia has become strangulated and cannot be returned by manipulation, a surgical operation is necessary. Whenever the necessity for such a procedure is apparent, it should be performed *immediately*,

for the greater the delay the greater the liability to fatal results. The operation consists in cutting down upon the strangulated bowel, thus relieving it of its constriction and facilitating its replacement. It is a delicate operation, and must be skillfully performed. After the operation, the patient requires appropriate hygienic treatment.

The Radical Cure. A small percentage of cures will follow the proper use of a good truss, and the advertisements of the so-called rupture cures are founded upon such cases. These impostors pretend that the use of some vaunted salve, ointment, or styptic lotion, applied on the outside, will heal and cure the deep-seated separation of the muscular fibres. The truss in these cases is the curative means in the small number that are relieved, and for it but few dollars should be charged instead of the exorbitant prices demanded by these impostors.

Fig. 5.

This figure illustrates a Double Inguinal Hernia, of large size, which was permanently cured by our improved method of treatment. The left side (*b*) shows the *direct* descent of the bowel into (*c*) the scrotum, while on the right side (*a*) the rupture is indirect, the bowel descending through the internal ring and inguinal canal.

Improvements in surgery in this age of wonders, have kept apace with the advances in electricity and other branches of science. Diseases and deformities which only a few years ago were considered incurable are now overcome and cured with certainty and without risk or suffering. Especially is this true with reference to hernia or rupture.

Our specialists have devoted much attention to the radical cure of rupture, or breach, with the most gratifying results. Formerly we employed and advocated the use of the injection treatment only. This method was tested and brought to a most efficient and practical stage, so that we now apply it in the treatment of over eighty per cent. of the cases that are presented at our Institution. This plan of cure, as used by us,

is a great advance over that of any similar one in use, throughout the country. Our fluid is much more safe in its effects, never gives rise to the troublesome abscesses and inflammation that is common to the use of the injection fluids that have been advised on the Heatonian method. The fluid we use is a bland and healing agent, which produces an exudation behind the cords that surround the inguinal rings, and forms a well defined truss pad of moderate size in such position that the rupture cannot pass by it and appear externally. It causes also an adhesive inflammation limited to the hernial sac, that completely closes it.

This treatment is rendered *entirely painless* by the use of a solution which is injected underneath the skin with a fine hollow needle attached to a small syringe, and which tends to produce complete local anæsthesia, or loss of feeling so that the procedure is thoroughly and carefully carried out without any risk or discomfort.

The needle used by us for the treatment of the hernia is so perfected that any possible injection of the fluid into the abdominal cavity, or upon the coating of the intestine, is an impossibility, and in no way can an injection be made into a blood vessel or nerve so as to produce any discomfort or trouble. We thus avoid all the risks that pertain to the usual plan of injection.

There is a small percentage of cases, as before stated, in which this form of treatment is not likely to give a permanent cure, from the fact that the omentum or intestine has become adherent externally, to the sac, or in the scrotum, to the coverings of the testicle. This makes the complete replacement of the rupture without cutting an impossibility, and in such cases even where the hernial opening is closed, treatment by injection only would not result in a permanent cure.

Our aim is to treat all cases of rupture that we undertake in such a manner that *by no possibility can the deformity return.* We therefore have for the cure of these cases another method, by which with our local anæsthetic fluid, we are able to perform a surgical operation without any distress whatever to the patient. The greatest risk of the old operation for rupture was the danger of general anæsthesia with chloroform or ether, or

some similar agent. The great majority of individuals cannot bear the inhalation of the large quantities of these anæsthetics necessary to secure loss of feeling without consequent nausea, and at times an effect upon the heart that often results seriously. The risk from the anæsthetic is much greater than from the surgical procedure. By our method, this risk is entirely done away with. The pain dispelling fluid enables our operator to pursue his method **without giving the patient any pain or discomfort whatever.** During the operation he is in full possession of all his faculties, and can assist in any way desired by coughing, or straining, in order, at any time, to complete the protrusion of the rupture and show its entire extent of surface when the sac is laid bare. We then replace the rupture completely; suture the sac so that the rupture will have no pocket into which to descend, and then firmly unite the rings by a plan that we have invented, and **by which they are made more strong and firm than in their original state.**

Early in our experience, and while using the plan of treatment that is usually employed for the radical cure of rupture, we had occasional relapses of the difficulty, but since using our improved method we have had no such trouble. We can assure our patients that there is less risk of the appearance of the rupture at the point where the operation is performed than there is of a new breach forming. The success of this treatment has been invariable. None of the plans of treatment that we pursue for the cure of rupture tend to keep the patient in bed more than a few hours. There is little or no pain, after either of our plans of treatment, and out of the many hundreds which we have treated and perfectly cured, in no instance have we had any inflammation or serious manifestation—there being no fever or general reaction. It is a matter of great surprise to our patients, who undergo our treatment for the radical cure of rupture, that by our varied methods, the object is accomplished with so little discomfort and with no pain whatever.

From two to three weeks' personal attention of our specialist, is usually all that is required even in the worst cases.

No truss is needed after our treatment. We consider a case cured only when the patient is able to do without a truss or support in all the usual walks and vocations of life.

TESTIMONIALS.

The testimonials that we append are but a small number out of the great mass that we have received. A very large percentage of individuals who have been treated by us for rupture desire that their disability be held a matter of sacred confidence and with all such we take pleasure in guarding their confidence with the greatest care. Others are quite willing that their experience may be made public in this manner for the benefit of similar sufferers.

If the following letters had been written by your best known and most esteemed neighbors they could be no more worthy of your confidence than they now are, coming, as they do, from well known, intelligent and trustworthy citizens, who, in their several neighborhoods, enjoy the fullest confidence and respect of all who know them.

A LOCOMOTIVE ENGINEER

Testifies to His Cure of Rupture. The Constant Jar of a Locomotive is one of the Severest Tests that can be Applied to a Recently Cured Case.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

F. W. FROST, ESQ.

Gentlemen—After suffering a number of years from a painful Rupture, I went to the Invalids' Hotel and Surgical Institute, at Buffalo. While there, I submitted to an operation which was not painful. It was done without chloroform, ether or any dangerous anæsthetic. Under the skillful treatment of your specialists and the very close and kind attention of your nurses, in less than a month, I left the Institution feeling like a new man. I have every reason to believe that the Hernia will never return, and that I am permanently cured. It it a great relief to go without a truss.

Very respectfully,

F. W. FROST,

Rotterdam Junc., Schenectady Co., N. Y.

A LOCOMOTIVE ENGINEER'S

Advice to Sufferers from Rupture. The Constant jar of a Locomotive is one of the Severest Tests that can be Applied to a Recently Cured Case. Throw away Trusses.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

F. S. AUCHENPAUGH, ESQ.

Gentlemen—I am an engineer—running an engine on the Western Division of the Fitchburg Railroad. I had a severe case of double Hernia; still, have always worked along with them until this winter. One side was of twenty-five years' standing—the other of about eight years. This winter I was laid up sick with pneumonia; in coughing so much, which of course was made necessary by that terrible disease, I strained myself so that after getting up from my sick-bed, I was not able to go to work, as I could get no truss that would hold the rupture. I was talking with Brother Stagg one day. He asked me "why I did not go to the Invalids' Hotel and Surgical Institute, at Buffalo, N. Y., and get cured?" I went, and in three weeks was cured, so that I could dispose of my truss entirely.

I wish to say this comes from me direct; it was my own proposition that this letter be made public.

Yours respectfully,
F. S. AUCHENPAUGH,
Rotterdam, N. Y.

RUPTURE FROM BOYHOOD.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I am glad to say that I was cured at the World's Dispensary Medical Association after suffering from boyhood until the age of twenty-five from a hernia, or rupture, by a treatment of twenty days. It is now five years since I was cured, and can say that I was permanently cured. You have my most sincere gratitude for your skillful operation and the good care received in your Institution while there. I can recommend your nurses and physicians most highly, and I think your Institution unequaled in this country.

Yours truly, ALBERT SAUVAIN,
Silverton, Marion Co., Oreg.

A. SAUVAIN, ESQ.

HERNIA—LEFT INGUINAL—PRESENT EIGHT YEARS WITH NERVOUS PROSTRATION.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y:

A. J. KIDDER, ESQ.

Gentlemen—I take greatest pleasure in making public the most wonderful cure I received at the Invalids' Hotel and Surgical Institute of Buffalo.

I had suffered severely for eight years with a left inguinal hernia; had tried many physicians and medicines, but found only temporary relief. I was greatly run-down, and my nervous system considerably shattered. My friends persuaded me to go to the Invalids' Hotel and Surgical Institute. While there I was operated on by their specialist, and in a few weeks began to gain strength and energy so that I could return home, and have since felt entirely well.

Words could not do justice to my feeling in regard to this institution. There is no place like it for medical aid, and I would urge all invalids to go there, feeling confident that they could no where receive more skillful treatment or more kind attention and care.

Respectfully,
A. J. KIDDER,
North Yam Hill, Yam Hill Co., Oreg.

HERNIA. CURED SEVERE PAIN.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

J. H. RIEMER, ESQ.

Dear Sirs—Your favor received and found that you would like to have me give you a testimony of my case. I will say in reply that I was treated at the Invalids' Hotel and Surgical Institute, for Hernia on the left side. It was not large but it gave me severe pain while working. I wore a truss but it did not relieve the pain very much. I read in the paper one night your advertisement and a week after I started for the Invalids' Hotel, and took the treatment for rupture and went home sound and happy, like a new man, and I can work harder than ever and can assure anyone interested that it is no humbug. With the best wishes,

JOHN H. RIEMER,
Zion, Wis.

P. S.—If any one would like to inquire about my case give them my full address and I will inform them about it, if they enclose return stamped and addressed envelope for reply. J. H. R.

"SOUND AS A DOLLAR."

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

B. F. HOOK, ESQ.

Gentlemen—Am greatly pleased to report that the operation for the radical cure for rupture received at your Institution in May, 1889, has proved entirely successful. I am sound as a dollar. My case was an extremely troublesome and dangerous one. Many times I required the assistance of a surgeon to reduce it. No truss would hold it a whole day. My two weeks' stay with you was worth thousands of dollars to me. Will gladly answer any inquiry and would advise any one suffering from hernia to take the radical cure.

Very truly yours,
B. F. HOOK,
Holmesville, Holmes Co., Ohio.

RUPTURE, DYSPEPSIA OR INDIGESTION, AND KIDNEY DISEASE.

The following is from the widely-known and popular proprietor of the Kingsley House at Ashuelot, N. H.: "It may seem useless to add testimony to the overwhelming mass already given of the many remarkable cures performed at your Institution, but I deem it a pleasure and a duty to add mine to your long list as *very remarkable*. I had a rupture of twenty-seven years' standing, with hemorrhage of the kidney for six months, preceding my visit to your Institute, and was also troubled badly with indigestion, all of which ailments had reduced me in strength and flesh to a mere skeleton. Had been treated by many local physicians, who failed to do me any good. I could walk but a very short distance when I left my home on the 8th of July, 1892, for treatment at your Institution, with but little faith or hope of ever being any better. But through your skillful treatment I was able to return to my home on the 9th of August, 1892, and consider myself permanently cured, having had to take no medicine since. Considering my case *almost a miracle*, I cannot speak too highly of your Institute and skillful treatment, to which I feel that I am indebted for my continued existance. You are at liberty to refer to me, and to use this as you see fit.

A. N. KINGSLEY, ESQ.

Very respectfully,
A. N. KINGSLEY,
Ashuelot, Cheshire Co., N. H."

RUPTURE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

H. KEIFER, ESQ.

Gentlemen—About four years ago, when working on a scaffold it gave way, and I fell a few feet and the strain and jar caused a rupture in the right side. I did not pay very much attention to this until I noticed that it was enlarging. It finally grew so that I could not work. I used several kinds of trusses that did me no good.

I went to the Invalids' Hotel and Surgical Institute, and submitted to an operation which was entirely painless and proved most satisfactory in every respect. Since then I have been well and able to do hard work for a man of my age (72). I feel no inconvenience from the rupture.

I take pleasure in recommending the Institute to all who are in need of help. I can highly recommend the physicians and nurses and the kind attention I received while there. I am now well and sound as ever.

Yours truly,
HENRY KEIFER,
Spring Green, Sauk Co., Wis.

HERNIA AND PILES CURED WITHOUT PAIN.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I have been successfully treated at your institution for piles and also rupture of the left side. Your institution is all it claims to be, and the treatment of my case was accomplished without pain and apparently any risk. Your method of using locally cocaine as an anæsthetic is such a decided improvement. I did not have to take any dangerous ether or chloroform, but had a small quantity of medicine injected that made the operation as painless as though it was being done on some one else. At the same time I knew everything and could see what was being done.

You have my kindest thanks for the good care and many attentions given me. Your nurses and physicians all give kind and skillful care.

Yours very truly,
J. J. APP,
Bolivar, Tuscarawas Co., Ohio.

J. J. APP, ESQ.

HERNIA OR RUPTURE.

Large Protrusion of Sixteen Years' Standing.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

M. G. HARTZELL, ESQ.

To the afflicted: For sixteen years I was troubled with Hernia, caused by heavy lifting. It was on the right side and the protrusion sufficient to extend into the scrotum. I purchased trusses, but none of them could be worn with comfort, and I suffered very much. I concluded to go to the Invalids' Hotel and Surgical Institute and see if I could not obtain relief. While there I submitted to an operation. The result was entirely satisfactory. The pain in my back subsided; my general health began to tone up, and in a short time, thanks to the skill of their specialist and the kind attention of their nurses, I felt like a new man. I take pleasure in highly recommending the Institution to all the afflicted. I feel confident that all the benefit to be derived from medical or surgical treatment is to be received at the Invalids' Hotel and Surgical Institute.

Yours respectfully,
M. G. HARTZELL,
Deadwood, So. Dakota.

DOUBLE RUPTURE.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—It is with much pleasure that I write you this testimonial of the wonderful cures you have performed for me.

In the year 1883, I became ruptured on the *left* side. I immediately wrote you (having heard of your fame in curing all kinds of diseases) for your terms of treatment which I received by return mail, you also stating you were positive you could cure me. Through unavoidable circumstances I was unable to come to your Institution until December, 1886. During this time I had tried wearing a truss, which only made it worse, and very much aggravated my complaint as it was impossible to hold the rupture in its place. However I arrived at the Invalids' Hotel on December 8th, 1886. On being examined by one of your staff, I was pronounced a bad case, but by your mode of treatment you could cure it. I was therefore, operated upon by one of your specialists, without any cutting however and comparatively little pain, by your scientific method, and in thirty days returned home cured. The time I had to remain there, I believe, was much longer than most persons treated for the same complaint.

D. HARTLEY, ESQ.

Since then I have worked very hard sometimes (my occupation being that of a farmer,) so much so that I became ruptured on the *right* side three years ago,—the other side remaining perfectly sound without any protection. I considered myself very unfortunate in being in this position again, fortunate in knowing where to go for relief, and very soon was back in your Institution where I was successfully treated and perfectly cured and am to-day a sound man and able to do any kind of work on my farm.

I write this testimonial for the sake of suffering humanity, and wish you to use it in any way that the greatest number of persons may read it. As for myself, I would not be in the condition I once was and not know of your Institution for all I could see. I not only recommend your Institution for the complaint of which I was cured but for all chronic diseases or anything requiring a skillful surgical operation, believing your Staff of Physicians and Surgeons to be second to none anywhere. Your nurses and attendants, and every accommodation, also, being all that is necessary to make your Institution everything that its name implies—a complete Invalids' Hotel and Surgical Institute.

Respectfully yours,
DAVID HARTLEY,
P. O. Box 84, Wyoming, Ont.

P. S.—I have also received much benefit from taking your "Golden Medical Discovery" for dyspepsia and liver complaint, and being broken down generally. A few bottles worked wonders, and I have been well ever since, and that was quite a number of years ago. D. H.

RUPTURE.

A Grateful Patient's Words of Praise.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main Street, Buffalo, N. Y.:

Gentlemen—Having been in your Institution as a sufferer from two distinct chronic diseases of years' standing, and having been placed under the charge of your specialists, I was speedily relieved of my afflictions. The Invalids' Hotel is a place as much like home as it is possible for such an institution to be. The physicians and surgeons are all expert specialists and thoroughly efficient; the nurses are very competent, attentive and kind; and, in fact, the whole *personnel* of the Invalids' Hotel endeavor to do their best to make the patients feel like being at home. I always felt while there as if I was one of the family. I gladly recommend your Institution to all persons who are afflicted with any kind of chronic disease, for from my own experience I *know* the professional staff will do all which they promise to do. Please accept my thanks for the speedy benefits and perfect cure of my diseases, and I think your Institution is worthy of the highest endorsement. Yours truly,

W. HENKEL, ESQ.

WILLIAM HENKEL,
No. 1917 Congress Street,
St. Louis, Mo.

STRANGULATED RUPTURE OR BREACH

In a Child Two Years Old, Cured.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

Dear Sirs—Our boy is, since the operation, quite well and healthier than ever before, so that I presume, the rupture, or a part of it, may have existed since his birth. Even that small lump in the groin has, as much as I can feel by touching, completely disappeared. I take this opportunity of expressing my heart-felt thanks for the kind and christian-like treatment my wife and boy experienced from you and the nurses. God bless you and let you live long for the wellfare of suffering men. Dr. Pierce's Invalids' Hotel of Buffalo, N. Y., deserves to be recommended to every sufferer of whatever disease. Eight years ago I underwent a successful operation, saving my body a member. The dangerous outgrowth, which made the operation a necessity, never returned. In regard to your specialist, I wish to remark, that his skillful way of performing operations reminded me very much of Bernard von Langenbeck, professor of surgery in the University of Berlin, where I was a student. He is just as tender and sympathetic with his patients as that famous director of the Prussian Royal Clinical Hospital has been. As to the medicines of Dr. Pierce, I recommended them to members of my congregation, who told me that they did them good. Dr. Bastian, of Dansville, N. Y., a druggist, told me that your medicines are bought by the same persons again and again. I consider this to be the best recommendation. A medicine which is of no effect will not be bought a second time by the same person.

REV. R. KRAUSE.

Yours, REV. RICHARD KRAUSE, Perkinsville, N. Y.

Mrs. Mary Krause, the mother of the little boy whose case is above reported, writes: "In respect to your medicines I can only say that they have done me and others much good, especially when I suffered with chronic catarrh and doctored with your physicians. I shall never forget the kind treatment I received from your physicians and nurses during the time I had to stay in your house, while our Herman had to go through that dangerous operation which was necessary to cure his strangulated rupture. I can recommend your Institute and medicines to all suffering people."

MRS. KRAUSE.

MASTER H. KRAUSE.

HERNIA OR RUPTURE

Of Fourteen Years Cured "Sound as a Dollar."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Dear Sirs—In reply to yours of the 29th ult., in which you kindly make inquiry in regard to my physical condition, I would say, that I am now, I think, as sound as a dollar, and consider that after I had had fourteen years of suffering with Hernia, and being cured as I was last winter at your Institute, makes me under great obligations to the science and skill of the World's Dispensary Medical Association.

Very respectfully yours,

ROBERT GALLAND.

Orangeville Mills, Barry Co., Mich.

R. GALLAND, ESQ.

IRREDUCIBLE HERNIA.

Present from Boyhood—Protrusion of Enormous Size.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.:

Gentlemen—I take pleasure in reporting that I have not worn the truss for a long period, and that I have been at work steadily at my business of binding and printing, running a large establishment, for over four years, without any trouble whatever from the rupture. It has remained permanently and perfectly cured. You will remember my case as a most severe one. I am a man of sixty years of age, and the disease had been the source of serious discomfort to me since childhood. The protrusion was the size of a man's head, and could not be replaced. I was forced to give up all exercise, and suffered much at my daily work from inconvenience and pain. Any injury upon the protrusion, which could not always be protected, was followed with much discomfort, and my general health was seriously affected. The passage of the food through the confined intestines was a painful process often times, and kept me in great misery. I am thankful to state that since your operation the rupture has remained sound and well, and I have been relieved of all difficulty of the kind. I now enjoy excellent health, and am at my business daily from twelve to sixteen hours, and on my feet constantly, yet without any manifestations whatever of the re-appearance of the rupture. You have my most sincere gratitude for the skillful operation and the good care received in your Institution while there. I can recommend your nurses and physicians most highly, and think your Institution is unequaled in this country. With many good wishes, I am,

D. NITSCHKE, ESQ.

Very truly yours,

DANIEL NITSCHKE,
2067 Franklin Ave., Toledo, Ohio.

COMPLICATION OF DISEASES.

Without solicitude or hope of pecuniary reward, with heart-felt gratitude and a desire to aid my fellow-man to health and happiness, allow me to state, that as an inmate for more than a month of the Invalids' Hotel and Surgical Institute at No. 663 Main Street, Buffalo, N. Y., I feel warranted in its highest recommendation. While there I saw and talked with a great number of people who came there as a last resort, to be cured of almost every chronic disease to which flesh is heir, and they were unanimous in their praise of the Institution and the skilled specialists who constitute its professional staff.

ANDREW HOLES,
Moorhead, Minn.

A. HOLES, ESQ.

L. CRIST, ESQ.

HERNIA OR RUPTURE OF 11 YEARS' STANDING.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
Buffalo, N. Y.:

Gentlemen—Allow me to express my thanks to you for the attention and benefits received at the hands of your skillful staff of surgeons and nurses. I had been a sufferer from Hernia for eleven years and tried everything, but was no better. I finally went to the Invalids' Hotel and Surgical Institute, and am now entirely cured and enjoy splendid health. I heartily recommend yours to be the most skillful treatment of the age. With best wishes,

LEWIS CRIST,
No. 67 Frankston Ave., Pittsburgh, Pa.

RUPTURE,

Aggravated by Occupation as a Locomotive Engineer—Could not be Held in Place—After Treatment Subjected to the Trying Test of the Constant jar of the Locomotive yet Proves Reliable.

J. M. KEACH, ESQ.

WORLD'S DISPENSARY MEDICAL ASSOCIATION, No. 663 Main Street, Buffalo, N. Y.:

Gentlemen—It has long been my desire to make a statement of my cure for the benefit of all those persons who have suffered in like manner. I had a rupture that was very large and difficult to hold in place. Trusses of all kinds were tried. They were painful and would not hold it. The rupture would come down constantly when at my engine and give me fearful pain. I was cured at the Invalids' Hotel and Surgical Institute, Buffalo, N. Y., by a treatment that is safe and certain. My cure has been permanent, although I have worked steadily.

Yours sincerely JAMES M. KEACH.
No. 66 Bissell Ave., Buffalo, N. Y.

FEMORAL HERNIA.

This patient, aged thirty-four years, was always delicate; suffered from malarial fever each year for ten years past. The hernia was caused by lifting her father, who was on his sick-bed, during five different times, causing terrible suffering. The hernia was treated by our Specialist, and in eighteen days the lady was able to return home.
She reports:

Gentlemen—I am grateful to you for a permanent cure of the hernia, and happy to inform you that I have felt no signs of rupture since I was at your Institution.

Respectfully yours,
Miss MATTIE V. THOMAS,
Albion, Noble Co., Ind.

MISS M. V. THOMAS.

"A LIVING DEATH FOR YEARS."

WORLD'S DISPENSARY MEDICAL ASSOCIATION, 663 Main St., Buffalo, N. Y.:

Gentlemen—In the hope that some sufferer from hernia may be induced to take your treatment for that disease, I send you this certificate, containing a synopsis of my case and cure of the same. My life was a living death for years. I had almost lost all hope of ever being cured, and was plunged in despair, as I had tried so many trusses, appliances and remedies, each one in successive repetition, a failure. In January and February of the year '89, I entered your Institution for treatment, my malady being an inguinal hernia on the right side, of twenty years' standing—from childhood. I was then impressed with the feeling that it was my last chance, and that it would be my last effort, and to be candid I had very little hope that a cure would be effected. To me my condition seemed appalling, as I dare not eat, drink, laugh, exercise or perform any of the functions of life without having to reduce my rupture, frequently as often as forty or fifty times *per diem*, while on occasions the reduction would occupy hours of untold agony. No truss or appliance that I could get would retain the rupture, and I had tried all sorts as fast as they came to my knowledge. Marvelous as it may appear to all sufferers from this distressing affliction, I was discharged from your Institute in thirty days, a well and sound man, and only from memory and the record do I know that I was ever ruptured. I have at times since performed some of the hardest kinds of work for long periods, but no sign of weakness has ever appeared. I do not consider the necessary operation performed as attended with

H. WOOD, ESQ.

any danger; it is no comparison to the chances a person takes who in the daily walks of life is tortured with a rupture.

While an inmate of your Institution, I was accorded the kindest and most considerate treatment from all members of your staff and employees with whom I came in contact. I consider the appointments and cuisine of the establishment as perfection. You are at liberty to make the fullest and freest use of this testimonial you may see fit in your judgment, and I will cheerfully answer any communication from any sufferer referred to me for more explicit testimony.

I am, Sincerely yours,

HENRY WOOD.
Mason Valley, Nev.

CROUP, MEMBRANOUS AND SPASMODIC.

Every family should be made acquainted with the symptoms and treatment of this disease. Especially is this true in the case of those living remote from a physician. From the lack of this knowledge on the part of parents, many a little one has perished before medical assistance could be obtained. In some of its forms its progress is very rapid, and, unless relief is obtained in a few moments, or hours at the most, death ensues.

Fig. 1.

False Membrane in Croup. From a specimen in Dr. Gross' cabinet.

There are several quite distinct pathological conditions of the vocal and respiratory organs which have, in popular parlance, been designated as croup. But two of these are worthy of consideration here. These are *true* or *membranous* croup, in which a false, semi-organized membrane is formed, and *spasmodic croup*. Both may result fatally, but the former is much the more dangerous.

Membranous Croup is supposed to originate in the trachea, from which, as it progresses, it often extends upward to the larynx, and downward to the bronchial tubes. It is the result of severe inflammation of the mucous membrane, and is characterized by the formation of a false membrane, which covers or lines the inner surface of the true structure (see Fig. 1). It is formed of a coagulable, semi-fluid exudation from the mucous membrane. On being brought to the surface and into contact with the inspired air, this substance grows thick and tough, or leathery, as we find it. It is the obstruction in the respiratory canal which this foreign matter causes that gives rise to the labored breathing, and the ringing, brassy cough, together with the crowing or whistling inspiration characteristic of croup. Before recovery can take place this membrane must be detached and expelled. The cough is nature's effort to accomplish this work.

The formation of this adventitious membrane in the larynx is attended with more danger than when it is confined to the trachea. In most cases in which the disease has had a very speedily fatal termination, an examination has shown that the larynx was its chief seat.

Symptoms. True croup is generally preceded by what is known as "a cold." The child coughs, sneezes, and is hoarse. It is the hoarseness and the peculiar *character* of the cough which indicate the tendency to croup. This has been already described. In addition, the

child is restless, fretful and feverish. The disease makes rapid strides. Finally the cough ceases to be loud and barking, and is very much suppressed; the voice is almost gone; the face is very pale; the head thrown back; the nostrils dilated and in perpetual motion, the pulse at the wrist very feeble, great exhaustion, more or less delirium, and, finally, death comes to the relief of the little sufferer. Convulsions sometimes occur in the last stages, and soon terminate fatally.

Treatment. No time should be lost in commencing treatment. Hot fomentations should be applied to the throat and upper portions of the chest. The free inhalation of steam should be employed early. The following treatment has been found very effectual in membranous croup, and is recommended by the highest authorities: Yellow subsulphate of mercury, or turpeth mineral, three to five grains, depending upon the age of the child, for one dose. If it does not cause vomiting in fifteen minutes, give a second dose. This, however, is seldom necessary. If the turpeth mineral cannot be obtained, sulphate of copper or sulphate of zinc may be given instead, as directed under the head of Emetics, in Part III, Chapter II. If there be a quick pulse, hot skin, a hurried breathing, and an occasional ringing cough, the child should be kept in bed, comfortably covered, but not overloaded with clothes, and the tincture or fluid extract of veratrum viride administered as follows: Take fluid extract of veratrum, five drops; sweet spirits of nitre, one teaspoonful; pure water, twenty teaspoonfuls; mix, sweeten with white sugar, and give a teaspoonful of the mixture every half-hour to two hours, according to the age of the child and the severity of the case. If there be great prostration, with cold extremities, the carbonate of ammonia should be administered, in doses of from one to two grains, every second hour, in gum arabic mucilage. Quinine is a valuable remedy, and is tolerated in large doses. The patient's body should be frequently sponged with warm water in which a sufficient quantity of saleratus or ordinary baking-soda has been dissolved to render it quite strongly alkaline. If the bowels be constipated they should be moved by an injection of starch-water. Beef tea and other concentrated, supporting diet should be administrated. In those cases in which there is a tendency to croup, the Golden Medical Discovery, together with iron and the bitter tonics, should be given to build up the system and counteract such tendency. The treatment which we have advised has been put to the severest tests in the most severe forms of the disease, and has resulted most successfully. If, however, in any case it does not give prompt relief, our advice is to lose no time in summoning a physician who is known to be skilled in the treatment of diseases of children.

Spasmodic Croup. In this affection no false membrane is formed. It seems to have a nervous origin. Most frequently the child is awakened in the night by a sense of suffocation. He may cry out that he is choking. The countenance is livid, the breathing is hurried

and each respiration is attended by a crowing sound. The child has fits of coughing or crying, and makes vehement struggles to recover his breath. This complaint, unlike croup, is unattended by fever, it being of a purely spasmodic character with no inflammation.

Apply hot fomentations to the throat, and give frequent small doses of tincture or fluid extract or syrup of lobelia, to produce slight nausea; or, better still, an acetic syrup of blood-root, made by adding one teaspoonful of the crushed or powdered root to one gill of vinegar and four teaspoonfuls of white sugar. Heat this mixture to the boiling point, strain, and administer from one-fourth to one teaspoonful every half-hour or hour. Slight nausea should be kept up, but it is unnecessary to produce vomiting. This is usually all the treatment that is required.

WHOOPING-COUGH. (PERTUSSIS.)

This is primarily a disease of the nervous system, involving the respiratory organs through the medium of the pneumogastric nerve. It is considered a disease of childhood, though we have met with it in *old age*. It is eminently a contagious affection, and occurs generally but once during life.

Symptoms. It is at first manifested by a catarrhal cough, gradually developed. After a while it becomes paroxysmal, generally worse at night. The cough is severe, and long-continued; when a prolonged inspiration occurs, it is accompanied by a peculiar shrill sound, the characteristic *whoop*, which, when once heard, is never forgotten. The cough is attended by a copious secretion of glairy mucus, which is brought up at the latter part of the paroxysm. During, or at the end of the paroxysm, vomiting frequently occurs, and sometimes nosebleed. The cough is so severe at times, that the patient turns purple, gasps for breath, and presents all the symptoms of suffocation. Bronchitis sometimes is a troublesome complication. Immediately preceding a paroxysm of coughing a sense of impending danger appears to seize the child, and it runs to its mother, or grasps some support, as if for protection. Until the paroxysmal character and peculiar *whoop* is developed, the disease is diagnosed with difficulty.

Treatment. We have found the Golden Medical Discovery to modify the disease and cut it short. The philosophy of its action can be readily understood by its effect on the pneumogastric nerve, as explained under consumption and bronchitis. Jaborandi, described under the head of diaphoretics, often speedily arrests this disease. The employment of an infusion of red clover blossoms, in small doses, is of undoubted value in modyifying the irritation of the air-passages, and may be used to good advantage with, or in alternation with the Golden Medical Discovery. Exposure to cold and wet should be avoided.

NOSEBLEED.

Hemorrhage from the nose is commonly the result either of a catarrhal or an inflammatory condition of the nasal mucous membrane. Individuals are susceptible to it who are oppressed by fever or constitutional diseases that reduce the strength. There is also a condition of the nervous system in which there is congestion of the nerve centres which favors manifestations of this somewhat troublesome difficulty.

Causes. In some instances an examination of the nose will reveal the presence of a small point of congested vessels, usually about the size of a split pea. Upon this portion of the mucous membrane small scabs form, and at any time when they may be dislodged, by accident or otherwise, a hemorrhage will ensue.

The constitutional conditions that produce the tendency to hemorrhage are most important. In individuals of a debilitated condition, it results from the lack of a proper amount of fibrin in the blood. Where the blood becomes thin, or loses a large share of its red corpuscles, the individual is pale, and hemorrhages are frequent from the mucous surfaces of any portion of the body, the nasal mucous surface being especially liable to such attacks.

Treatment. This is local and constitutional. Where there is constitutional imperfection, it should be remedied. Usually in young women there is some difficulty with the ovarian or uterine circulation, and the attack of hemorrhage from the nose is reflex in its character, appearing just before or at the time of the menstrual flow, accompanied with troublesome headache. The correction of this form is by the use of the "Favorite Prescription" and "Golden Medical Discovery," using of each a teaspoonful three times a day, taking the "Prescription" before meals and the "Discovery" after meals. If the bowels are constipated, the "Pellets" should be employed, in order to overcome any congestion of the liver which favors the manifestation of nosebleed. In children there is usually a debilitated state of the system, which is best remedied by the use of a half teaspoonful dose of the "Discovery," taken three times a day, after meals, with sweetened water. This treatment should be continued for a month or six weeks. By this means the blood-making organs rapidly improve in their activity and functions, the blood becomes rich in corpuscles and fibrin, thus strengthening the walls of the blood-vessels and tending to prevent a hemorrhage following undue excitement or injury. With men the use of laxatives is of great importance. One or more of the "Pellets," taken on retiring at night, are most beneficial. Where the blood is not up to the standard of purity, even though the individual be fleshy, the "Discovery" should be used, a teaspoonful or two, three times a day, after meals, in conjunction with plenty of outdoor exercise and the best of food. Where the hemorrhagës occur in those having too much blood, the diet must be corrected by the use of vegetables and fruit,

diminishing the amount of meat and pastries to a minimum. The amount of fibrin should also be increased by the use of the "Golden Medical Discovery."

Local Treatment. Of those applied directly to the membrane, Dr. Sage's Catarrh Remedy, used according to the directions which wrap the bottle, is excellent in bringing about a normal condition of the mucous surfaces. Following this, a small amount of Subnitrate of Bismuth may be snuffed into each nostril. Usually the amount required to cover a three-cent silver piece is sufficient. The powder dries the surface and favors the speedy formation of a coagulum, or clotted covering, which effectually checks any further hemorrhage. The application of a firm compress to the upper lip will also diminish the flow of blood through the arteries that run to the anterior portion of the mucous surface. Good effects often follow the use of a small piece of ice applied to the nape of the neck. This, with a reclining posture, will cause contraction of the blood-vessels. If the Subnitrate of Bismuth is not to be readily obtained, the use of any other powder such as starch, finely divided and baked so as to be free from a tendency to form starch paste when applied to a mucous surface, is equally good. Well-browned flour is also serviceable. The use of the contents of a puff-ball, which contains many millions of fine spores, has been employed from time immemorial. The use of such drying powders tends to favor the speedy formation of clots. Where the small points of engorged vessels are to be readily reached, use a solution of the Tincture of Chloride of Iron, one part in four of water, applying with a small pledget of soft cotton wrapped about, or fastened to, the end of a pencil or stick. In this way the solution may be applied in very small amount to the spot where the hemorrhage appears, and will give immunity from future attacks. Any of the styptics (see pages 320–325) can be called into service. Those who have the advantage of the city drug store may use a solution of basic ferric sulphate (Monsell's solution), or the spray of a three or four per cent. solution of cocaine. The latter is one of the most pleasant and effective remedies in these emergencies. Before its administration the nasal cavity should be cleansed by snuffing up the nostrils salt and warm water. When washed, immediately apply the spray. If the constitutional condition which led to the hemorrhage continues, the general remedies—of which the "Golden Medical Discovery" is the most efficacious—should be administered. This agent increases the number of red blood corpuscles, and enriches the blood in fibrin, so that the relief obtained is absolutely permanent.

INFLAMMATION OF THE STOMACH. (Gastritis.)

Gastritis is generally defined as an inflammation of the mucous membrane of the stomach. However, the cellular, muscular, and serous tissues are all liable to be more or less affected. Gastritis may be

either *acute* or *chronic*. Either form is a distinct modification of disease, manifesting peculiar symptoms and requiring special remedies.

Acute Gastritis generally occurs as a result or complication of other diseases. It is an occasional feature in scarlatina, serious cases of bilious fever, and in cutaneous affections of every description. The mucous membrane of the stomach is placed in intimate communication with all the vital organs, by means of the nerves of the solar-plexus, hence the sympathy between the stomach and skin, and the morbid condition of the stomach occasioned by disease of other organs.

The Early Symptoms of acute gastritis are a burning sensation in the stomach, accompanied by nausea and frequent vomiting. The respiratory movements are rapid and shallow, the pulse is hard and short, and as the disease progresses, becomes small, frequent, and thready. The tongue usually retains its natural appearance, but it is sometimes dry and tinged with a vivid scarlet at the tip and edges. Intense thirst and hiccough are occasional symptoms. The facial expression is haggard, and indicative of the most intense suffering. The stomach will not retain the mildest liquids. In the early stages of the disease, the ejections consist of chyme and mucus, streaked with blood. As it progresses, the vomiting becomes a sort of regurgitation, the contents of the stomach being ejected without any apparent nausea or effort. The ejections then consist of a dark-colored granular matter, resembling what is known in yellow fever as *black-vomit*.

Causes. Formerly it was supposed that this was a very common disorder, and the term *acute gastritis* was applied to every development of symptomatic fever. But late clinical and pathological investigations clearly indicate that acute gastritis is of rare occurrence. It may be caused by the excessive and habitual use of alcholic drinks, especially if taken without food, by copious draughts of cold water, or by intense emotions. But its *general* cause is the ingestion of irritating and corrosive poisons.

Where the former causes are known not to exist, the presence of poison should always be suspected. As the cause sometimes becomes a matter of legal investigation, it is very important that the practitioner should be able to determine the *real* origin. If caused by poison, the disease is very suddenly developed, the patient complaining of a very intense burning sensation in the throat and the lining membrane of the mouth, which will generally show the action of the poison. A diarrhœa is also more apt to accompany the disease. If inorganic or vegetable poisons are known or suspected irritants, the appropriate antidotes should be promptly administered. For a list of the principal poisons and their antidotes, with practical suggestions for treatment, the reader is referred to the article in this volume, on Accidents and Emergencies.

Treatment. The inflammation should be allayed, and a tea made of peach-tree leaves is very serviceable. Small pieces of ice, swallowed,

will generally allay the thirst and vomiting, and a mucilage of slippery-elm is very soothing to the inflamed mucous membrane. This is an important disease, and its management should be entrusted to a skillful physician.

CHRONIC INFLAMMATION OF THE STOMACH.

Chronic Gastritis is sometimes mistaken for dyspepsia or gastralgia. It is very necessary to discriminate between these diseases, as the appropriate remedies of the latter will often only aggravate and augment the former.

A chronic inflammation of the stomach is a very common affection and has many phases, but the term chronic gastritis is applied only to that species of inflammation occasioned and accompanied by irritation. It is seldom a result of the *acute* form.

The Symptoms of chronic gastritis are various and sometimes vague. Among those which are prominent we may mention an irregular appetite. At times it is voracious and the patient will consume every available article of diet, while at others he will experience nausea and disgust at the sight of food. Even when very hungry, one mouthful of food will sometimes produce satiety and cause vomiting. The appearance of the tongue is variable, sometimes natural, at others thickly coated. The desire for drink is capricious, varying from intense thirst to indifference. Another prominent symptom is a sense of heaviness and heat in the epigastric region, after partaking of food. Often a small quantity, as a teaspoonful of milk, will produce a sensation of weight, as a heavy ball lying at the pit of the stomach. This symptom is frequently accompanied by a frontal headache, and a small and wiry pulse. Dull or shooting pains are experienced in the stomach and between the shoulders, and the patient becomes weary, melancholy, and emaciated.

Causes. The general cause of chronic gastritis is excess in eating or drinking, and the use of alcoholic liquors. We have known it to be produced by drinking *hard* cider. Great mental excitement predisposes the system to this affection. Occasionally it is a result of febrile diseases, as scarlatina, typhoid fever, etc. In some families there is a constitutional tendency to its development.

Treatment. All medicines which tend to irritate the stomach, should be studiously avoided. The bowels should be kept regular, and the skin clean by frequent bathing. Stimulants of all kinds must be avoided. As a principle article of diet, we would recommend milk and farinaceous articles. If these precautions be observed, nature will sometimes effect a cure. Lime water and the subnitrate of bismuth, in twenty-grain doses three or four times a day, are useful to allay irritation. Other suggestions applicable to its domestic management,

may be found under the hygienic and medicinal treatment of dyspepsia, to which we refer the reader.

NEURALGIA OF THE STOMACH. (Gastralgia.)

Gastralgia is a neuralgic affection of the stomach, unaccompanied by inflammation. It is sometimes mistaken for chronic gastritis, although there is a marked difference in the symptoms.

A Prominent Symptom of Gastralgia is a *paroxysmal* pain radiating from the epigastric region, to all parts of the thoracic cavity. The pain is sometimes lessened by walking, lying on left side, or by gentle pressure, and usually abates after eating, but is renewed in a few hours. The patient occasionally experiences a sense of heaviness at the pit of the stomach, nausea, and frequent salty eructations. The tongue is white, the appetite variable, and there is no desire for liquids. The sleep is usually refreshing, and when not suffering from acute pain, the patient is apparently well.

The *distinguishing* symptom of this disease is a feeling of intense despondency, and, sometimes, a morbid fear of death.

An effectual method of distinguishing between gastralgia and chronic gastritis is by the administration of an alcoholic stimulant. If gastritis be the affection the pain will be augmented; whereas, if it be gastralgia, it will be relieved.

Cause. The cause of gastralgia is a local or sympathetic irritation of the nerves distributed to the stomach.

Treatment. The pain of gastralgia is sometimes allayed by using half a teaspoonful of subcarbonate of bismuth, and repeating the dose, if the attack is not relieved. The following is a very effectual remedy: take twenty grains of quinine, combined with one drachm of prussiate of iron, and divide it into ten powders, and administer a powder every three hours until the pain is completely arrested. Temporary relief may be given by administering one-quarter of a grain of morphine, or ten to twenty drops of chloroform in a teaspoonful of glycerine, slightly diluted, taken in one dose. One of the most effective remedies for preventing a return of the attacks is that invigorating tonic and alterative, the "Golden Medical Discovery." The patient should be careful in diet, and not eat too much food, which should not only be of a nutritious kind, but easy of digestion. Cleanliness, suitable clothing, bodily warmth, exercise, and rest must not be neglected. Sometimes it is lingering and requires long persistence in hygienic and medicinal treatment. Everything tending to promote the tone of the digestive organs, and improve the functions of the system generally may be considered advantageous in this neuralgic affection.

PERITONITIS.

The *peritoneum*, or serous membrane which lines the abdominal cavity and invests the intestines, is liable to become inflamed. When this occurs, the affection is termed peritonitis, and may be divided into the *acute* and *chronic* forms.

Acute Peritonitis. This form may be circumscribed; that is, confined to one spot, or it may extend over the entire surface of the peritoneum, when it is known as *general.*

Symptoms. There is headache, quick pulse, tongue coated white, countenance pallid, features pinched, respiration difficult, nausea and vomiting, severe pain in the abdomen, which is extremely sensitive to pressure and becomes very much distended. There is also pain in the limbs, the bowels are constipated, and, in exceptional cases, diarrhea is a prominent symptom. The urine is deficient in quantity, and there is sleeplessness, chilliness, and great general prostration. Vomiting and coughing or sneezing increase the pain. An erect position occasions intense suffering. The patient is compelled to assume a recumbent posture and is inclined to lie on the back, for in that position the sufferer experiences the least pressure of the vital organs against the peritoneum. There is also an inclination to draw up the lower limbs and retain them in a flexed position.

Causes. Prominent among these are injuries which have been inflicted upon the intestines, compression of the colon, or rectum, perforation of the stomach or bowels, either by violence or some pre-existing disease, thus allowing the discharge of blood, urine, bile, or fecal matter into the abdominal cavity; also abortion, over-exertion, and exposure to wet or cold. As acute peritonitis is always a grave disease, involving more or less danger to life, it is the wisest course to employ a physician and trust the case to his management. The same remark is equally applicable to the chronic form of the disease.

Chronic Peritonitis. Like the acute, it may be either *circumscribed* or *general.* This form is sometimes, though rarely, a sequel of the acute. When it appears independently of the acute, it is generally associated with some cutaneous affection pertaining to the abdominal cavity, and the inflammation is induced by the tumor. If chronic peritonitis be connected with the *tubercular* diathesis, tubercles may be discovered upon the surface of the stomach and alimentary canal, and may also be found in the lungs and brain.

When the affection is not tubercular there will appear in the abdominal cavity an effusion of serous fluid of greater or less quantity, mingled with blood and pus. When such an effusion takes place, the abdomen gradually increases in size, or becomes smaller than is natural. There is pain, attended by soreness upon pressure, and the patient becomes emaciated.

Inflammation of the peritoneum is frequently an accompaniment of

puerperal fever, which is a disease peculiar to childbirth, and which may arise from cold, or be communicated from one parturient patient to another by midwives.

Treatment. In the remedial management of acute peritonitis, it is obviously necessary to use some agent which will at once influence and change the congested state and inflammatory condition. One of the best agents employed to make a decided impression upon the vascular system, subdue inflammation, and modify its action, is the fluid extract of veratrum viride, administered in full doses, and repeated until the system shows its effects in a decided manner. Warm fomentations applied to the abdomen are sometimes very servicable, and are objectionable only because of their liability to dampen the bed-clothes. When the abdomen will bear a thick, warm poultice, apply it, and then cover the entire surface with oiled silk. The tincture of opium, in doses sufficient to relieve pain and quiet the peristaltic action of the intestines, is generally necessary.

EPIDEMIC CHOLERA.

This is an epidemic disease, supposed to be due to an impalpable specific poison, but as to the exact nature of this poisonous matter nothing definite is known.

This plague first made its appearance on our continent in 1834. Owing to its great fatality, it is a disease much to be dreaded.

Symptoms. These are well defined. It is characterized in its earlier stages by pain in the stomach and bowels, especially in the umbilical region, nausea, vomiting, diarrhea; later, the purging is excessive, and the matter dejected resembles rice-water, and contains white, solid, curd-like matter. The patient loses strength, and sinks rapidly. The secretory organs fail to perform their functions normally, the skin is sometimes moist, but oftener cold and dry; but little if any bile is found in the excretions, and the urine voided is very scanty. There is general nervous derangement, as indicated by the spasmodic contraction or cramping of the muscles. This first attacks the extremities, but soon affects the entire body, and gives rise to excruciating pains. The head is affected by singing, roaring, disagreeable noises in the ears, the pulse is feeble, but quick, the nails are of a bluish color, the tongue is coated white, the eyes are sunken, and the patient has a corpse-like appearance; the temperature of the body rapidly falls, the surface becomes deathly cold, and, unless the disease is promptly arrested in its course, speedy dissolution follows. The disease is rarely prolonged beyond twenty-four hours, and sometimes terminates within three or four hours after its first attack.

Treatment. The kind of medicine required depends upon the severity of the attack and stage of the disease. In all cholera epidemics, there are premonitory symptoms, such as an uneasy sensa-

tion at the pit of the stomach, and a rumbling of the bowels. This is apt to be followed by a painless diarrhea, which occasions no alarm, and the patient pays but little attention to it. Herein is the great and dangerous mistake. The patient is already in the stage of *invasion*, which must be promptly arrested, or he will suddenly be precipitated into the stage of *collapse*. The patient should lie down, and have placed about him bottles filled with hot water, thereby exciting warmth upon the surface of the body. At the same time, administer two teaspoonfuls of the Extract of Smart-weed. If the symptoms are urgent, repeat the dose every fifteen minutes. Brandy, thickened with sugar, may also be given. In either the stage of *invasion* or *collapse*, the leading indication is to establish *reaction* by promoting perspiration. Bathe the feet in water as hot as can be borne, give the Extract of Swart-weed freely, and thus endeavor to excite profuse diaphoresis. No time should be lost, for delays are dangerous. When the reaction is established, the patient should remain quiet, and not attempt to exert himself.

After reaction has taken place, the sweating should be maintained for twelve hours, and the patient should drink slippery-elm tea and toast-water, and partake sparingly of soft toasted bread and chicken broth. The food should be fluid and nutritious, but taken in small quantities. Do not disturb the bowels with laxatives until the third day after the patient begins to improve, and then they may be moved by an injection of warm water. Great care should be taken that the patient does not indulge too soon or too freely in the use of food. When a skillful physician can be had, no time should be lost in securing his services, but since in epidemics of this nature, medical men are generally overworked, and not always easily and promptly to be had, we have been quite explicit in giving full directions for treatment.

Cholera Morbus, also known as *sporadic cholera* and *simple cholera*, usually occurs during the summer months. The attack may be sudden, although it is usually preceded by a sensation of uneasiness and colicky pains in the stomach.

Symptoms. Nausea, vomiting and purging are the most prominent symptoms. The discharge from the bowels is at first of a thin, yellow appearance, but finally it becomes almost colorless. Sometimes, after the contents proper of the bowels have been evacuated, the dejections have a bilious appearance. Severe cramps and pain accompany the vomiting. The vomiting and purging usually occur in paroxysms, but finally become less frequent, a reaction takes place, the extremities grow warm, and the patient gradually recovers. It may be accompanied by intense thirst and a quick pulse, yet the surface may be cool.

Causes. Cholera morbus is most prevalent in warm climates, and especially in malarial districts. It is generally the result of eating indigestible articles of food, such as unripe fruit or uncooked vege-

tables. Stimulating drinks, or those articles which furnish the elements for fermentation, also favor the production of this disease.

Treatment. If the attack be superinduced by eating unripe or stale fruit, it may be proper to give an emetic or a cathartic, but ordinarily first give a full dose of the Extract of Smart-weed, and, if the vomited matter is very sour, give the patient a weak, alkaline drink, which may be made by dropping a few live, hardwood coals into a tumbler of water. This will not only assist in neutralizing the acidity of the stomach, but will help to allay the thirst and accompanying fever. If the patient throw up the first dose of the Extract of Smart-weed, a second should be given. Do not allow the patient to drink cold water, and give only tablespoonful doses of the alkaline solution every thirty minutes. If the thirst is great, occasionally give a tablespoonful of a tea made from scorched Indian meal, which not only allays the desire to drink, but also the irritation of the stomach. If to be obtained, give a tea of the leaves or bark of the peach tree. The patient should be well covered in bed and kept warm. Laudanum by the stomach, or by enema, may be necessary in severe cases to relieve the pain and check the purging. Hot fomentations applied to the bowels are very valuable. A mustard plaster applied over the abdomen will assist materially in relieving the nausea and vomiting. It should not be left on sufficiently long to blister. When the affection is promptly treated as we have suggested, the patient generally quickly recovers. If, however, it does not yield to these measures, the family physician should be called in.

ACCIDENTS AND EMERGENCIES.

Accidents and emergencies which require immediate attention frequently occur. Professional aid cannot always be quickly obtained and hence fatal results often follow. It is, therefore, important that all persons should not only know how to proceed under such circumstances, but that they should be able to exercise that deliberation and self-control so necessary in emergencies of all kinds. Most persons are more or less affected by the sight of blood or severe wounds, and it requires an effort to maintain self-possession. One should act resolutely; otherwise he will find himself overcome and unable to render any assistance.

WOUNDS.

Wounds may be classified as *incised*, *punctured*, *contused*, *lacerated*, or *poisoned*.

Incised wounds are those which are made with a sharp, cutting instrument, and are characterized by their extent of surface.

Punctured wounds are made with a pointed instrument, and distinguished for their depth rather than breadth.

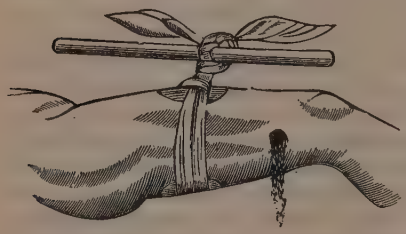
Contused wounds are those produced by bruises.

Lacerated wounds are those in which the flesh is torn and mangled.

Poisoned wounds are made with a poisoned instrument, or by some poisonous reptile or insect or rabid animal.

In all cases of wounds, the immediate danger is in the *shock* produced upon the nervous system, and in the liability to *hemorrhage.*

Fig. 1.

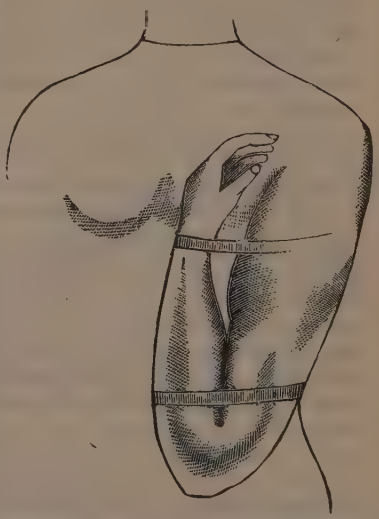


The Field Tourniquet as applied.

Shock. If severe, the shock is attended with symptoms of extreme prostration, such as a feeble pulse, shivering, partial unconsciousness, fainting, hiccough, vomiting, and involuntary discharges of the urine and feces.

Treatment of Shock. The clothing should be loosened immediately after the accident, so that the blood may have free circulation, and the patient should be kept in a recumbent position. He should have plenty of fresh air. Camphor or ammonia may be inhaled. If he can swallow, stimulants may be given, as whisky or brandy, but with care that they do not run into the trachea, or windpipe. If he be unable to swallow, they may be administered as injections, but should gradually be discontinued as reaction takes place. A warm pillow placed at the back and the use of electricity may be beneficial.

Fig. 2.



Mode of employing flexion for the arrest of hemorrhage from a wound located below the elbow.

Hemorrhage, or bleeding, may generally be controlled by a *compress*, *tourniquet*, *flexion of the joint*, or *styptics*. *A compress* consists of several folds of cloth laid upon a wound, the edges of which have been brought together, and made secure by a moderately tight bandage.

A tourniquet may be extemporized by rolling a handkerchief into a cord and tying it around the limb, over a compress, between the wound and the heart. A stick should then be thrust between the handkerchief and skin, and twisted around several times, until the

Fig. 3.

Mode of employing flexion for the arrest of hemorrhage from a wound below the knee.

Fig. 4.

Mode of employing flexion for the arrest of hemorrhage from a wound located between the thigh and knee.

pressure is sufficiently great to arrest the circulation of the blood in the wounded part. A representation of this operation may be seen in Fig. 1.

Flexion of the joint, as represented in Figs. 2, 3, and 4, is adapted to many cases of hemorrhage. As water cannot flow through a rubber tube bent at a sharp angle, so the acute flexion of a limb prevents the free flow of blood through the arterial tubes.

In some cases, *styptics* may be directly applied to the wounded tissues. Cold acts as a powerful styptic, and may generally be made available for arresting hemorrhage.

Poisoned Wounds. The treatment of these should chiefly consist in the prevention of the spread of the poison. This may be done by tightly applying bandages above the wound and scarifying or sucking the parts. Nitrate of silver may then be used and the ligatures removed. Alcohol, in any form, is an antidote to snake poison. For the stings of insects, apply aqua ammonia, fresh earth, raw onion, plantain, or spirits of turpentine.

FRACTURES AND DISLOCATIONS.

The treatment of injuries received from the fracture of bones and the dislocation of joints should never be attempted by the inexperienced, nor should the management be left to incompetent physicians but *skillful* surgical aid should at once be summoned.

SPRAINS.

A sprain consists of a sudden and forcible stretching of the ligaments and tendons connected with a joint, without there being any dislocation. It is attended with severe pain and is followed by rapid swelling.

The treatment should consist of measures to prevent inflammation, promote absorption, and restore a healthy action. The affected part should be kept at rest in an elevated position, and hot or cold water applied frequently. If there is much inflammation, fomentations of hops may be used. The Compound Extract of Smart-weed is an excellent application.

When the acute symptoms have disappeared, absorption should be favored by systematic rubbing and the application of stimulating liniments, or by the use of a well-adjusted bandage. Passive motion may be resorted to gradually and the subject may use the joint moderately. Should any stiffness remain, warm salt water douches should be employed and the Extract of Smart-weed applied once a day.

BRUISES.

Bruises or contusions are caused by falls, wrenches, or blows from blunt instruments, without breaking the skin. The soft tissues are lacerated and blood is poured out into them, constituting *ecchymosis*.

The discoloration passes through various shades from a bluish-black to a violet, a green, and finally, a yellow.

If the bruise is severe, the affected part should be kept at rest and frequently bathed with the Compound Extract of Smart-weed or the tincture of arnica. If inflammatory symptoms supervene, fomentations and poultices should be applied.

FOREIGN BODIES IN THE NOSE.

Foreign bodies, such as beads, peas, coffee-grains, and small gravel-stones are occasionally introduced into the nostrils of children, becoming fastened there, and causing great anxiety and alarm. If allowed to remain, they generally cause inflammation and suffering.

Such bodies may generally be washed out by gently injecting a stream of tepid salt water with a syringe or Dr. Pierce's Nasal Douche. In no case should force be used. If these means fail, a competent surgeon should be consulted.

FOREIGN BODIES IN THE THROAT AND AIR-PASSAGES.

Foreign bodies are generally arrested so high up that they may be seen by simply depressing the tongue, and removed with the finger or a pair of forceps. The head should be thrown back in such a position as to cause the chin to project as little as possible beyond the prominence known as Adam's apple, in order that the finger or forceps may be readily introduced and the body released and ejected. When the foreign bodies are so small as to pass out of sight in the larynx, windpipe, or esophagus, it is generally difficult to extract them, and the services of a surgeon are required. Fortunately, however, there is not much immediate danger from suffocation in such cases.

DROWNING.

Recovery from drowning sometimes occurs when life is apparently extinct. The treatment, however, should be immediate and energetic, and should be given in the open air, unless the weather be too cold.

Treatment. The patient should be gently placed upon the face with his wrists under his forehead. The tongue will then fall forward and the water run out of his mouth and throat, while the windpipe, or air-passage, will be free. To restore respiration, he should be instantly turned upon his right side, his nostrils excited with snuff or ammonia, and cold water dashed upon his face and chest. If this operation prove unsuccessful, replace the patient upon his face, care being taken to raise and support his chest, turn the body gently on the side and quickly again upon the face. Alternate these movements about every four seconds, and occasionally change sides. When the body is turned

on the face, gentle but efficient pressure should be made along the back, between the shoulder blades, to assist in forcing the air out of the lungs, but this pressure ought to be removed before the patient is turned back on his side. Persistently repeat this operation, and success will often be the reward. As soon as respiration is established, warmth may be promoted by the application of warm flannels to the body and bottles of hot water to the stomach, armpits, thighs, and feet. During the entire process of restoration, the body should be thoroughly rubbed *upwards*. Turning the body upon the back or handling it roughly should be avoided. The person should not be held up by his feet, or be rubbed with salt or spirits. Rolling the body on a cask is improper, and injections of the smoke infusion of tobacco are injurious. Avoid the constant application of the warm bath, and do not allow a crowd to surround the body.

FAINTING.

When a person faints, *he should be allowed to remain or be placed in a recumbent posture*, and his clothing immediately loosened. The extremities should be rubbed, the patient permitted to have plenty of fresh air, and, if at hand, ammonia or camphor should be applied to the nostrils.

BURNS AND SCALDS.

The danger arising from burns and scalds depends not only upon the extent of surface involved, but also upon the depth of the injury. Burns are most dangerous when occurring upon the head, chest, or abdomen.

Treatment. Soothing applications, and those which will exclude the air, should be made. Grated potato, poultices of slippery-elm, sweet oil, cotton saturated in a mixture composed of two or three grains of carbolic acid and two ounces of glycerine, and linseed oil and white lead, are all beneficial for the treatment of burns. If internal treatment be necessary, it should be given under the direction of a competent physician.

SUN-STROKE.

In cases of sun-stroke, the patient should be at once removed into the shade. If the face is *flushed*, apply cold water to the head and neck, and mustard to the feet. The body should be bathed in tepid water and the head slightly elevated. If the countenance is pale, the symptoms denote exhaustion, and the patient should be kept in a recumbent position, the extremities rubbed, camphor and ammonia inhaled, mustard applied to the spine, and stimulants, such as brandy or whisky, should be administered.

POISONS AND THEIR ANTIDOTES.

Poisons.	Antidotes.
ACIDS.	
Acetic Acid. *Citric Acid.* *Muriatic Acid.* *Tartaric Acid.*	Alkalies—carbonate of soda and potash—also lime and magnesia are antidotes to these poisons. As soon as the acid is neutralized, mucilaginous teas, such as flax-seed, gum arabic, or slippery-elm, may be given.
Sulphuric Acid (*Oil of Vitriol*).	Soap, in solution, or magnesia will counteract its influence. Water should *not* be given as it causes great heat when mixed with this acid.
Nitric Acid (*Aqua Fortis*). *Oxalic Acid.*	Lime-water, carbonates of lime and magnesia in solution, are the only antidotes. Give mucilaginous drinks.
Carbolic Acid.	There is no special antidote. Oil, glycerine, milk, flour and water, white of eggs, magnesia, and flax-seed tea may be used.
Prussic Acid. *Laurel Water.* *Oil of Bitter Almonds.* These agents are speedily fatal.	Ammonia, by inhalation or in solution, may be used. Apply a cold *douche* to the head.
ALKALIES.	
Liquor of Ammonia. *Water of Ammonia.* *Muriate of Ammonia.*	Vegetable acids, such as vinegar, lemon-juice, citric and tartaric acids, neutralize this poison.
Liquor of Potassa. *Nitrate of Potassa* (*Saltpetre*). *Carbonate of Potassa* (*Pearlash*). *Salts of Tartar.*	All the fixed oils, such as linseed, castor, and sweet oil, also almonds and melted lard, destroy the caustic effects of these poisons. Mucilaginous drinks may be given.

POISONS.	ANTIDOTES,
IODINE. *In its different forms.*	Starch, wheat flour mixed with water, whites of eggs, milk, and mucilaginous drinks are excellent antidotes.
VOLATILE OILS AND AGENTS. *Creosote (Oil of Smoke).* *Oil of Tar.* *Oil of Turpentine.*	The same antidotes as in case of poisoning with iodine may be used in this, or the stomach may be evacuated with an emetic or a stomach-pump.
ALCOHOL.	A powerful emetic of white vitriol or mustard should be given at once, cold should be applied to the head, and the extremities vigorously rubbed.
ANTIMONY AND ITS COMPOUNDS. *Tartar Emetic.* *Butter of Antimony.* *Oxide of Antimony.*	If vomiting has not occurred, induce it by tickling the throat and giving large draughts of warm water, after which administer astringents, such as infusions of galls, oak-bark, Peruvian bark, or strong green tea.
ARSENIC AND ITS COMPOUNDS. *White Arsenic.* *Yellow Sulphuret of Arsenic.* *Red Sulphuret of Arsenic.* *King's Yellow.* *Fly Powder.* *Arsenical Paste.* *Arsenical Soap.* *Scheele's Green.* *Paris Green.*	Oils, or fats, lard, melted butter, or milk should be given, then induce vomiting with sulphate of zinc, sulphate of copper or mustard; fine powdered iron rust or magnesia may be given every five or ten minutes. Mucilaginous drinks should be given as soon as the stomach is evacuated.
COPPER AND ITS COMPOUNDS. *Blue Vitriol.* *Verdigris.*	*Avoid the use of vinegar.* Give albuminous substances, such as milk, whites of eggs, wheat flour in water, or magnesia; yellow prussiate of potash in solution may also be given freely.

POISONS.	ANTIDOTES.
LEAD AND ITS COMPOUNDS. *Acetate of Lead* (*Sugar of Lead*). *White Lead.* *Red Lead.* *Litharge.*	In lead, or painters' colic, purgatives and anodynes may be given, together with large doses of iodide of potassium.
MERCURY AND ITS COMPOUNDS. *Corrosive Sublimate.* *White Precipitate.* *Red Precipitate.* *Calomel.*	Albumen in some form should be given; if the poison is not absorbed, follow with a mustard or lobelia emetic.
ACRO-NARCOTICS. *Ergot.* *Black Helleborc.* *Veratrum Viride* (*American Hellebore*). *Aconite.* *Fox-glove.* *Gelseminum.*	The general treatment indicated for this class of poisons, is to evacuate the stomach with a stomach-pump or an emetic composed of fifteen or twenty grains of sulphate of zinc or copper, or large doses of mustard, repeated every quarter of an hour until the full effect is produced.
Belladonna. *Stramonium.*	Morphine, sassafras, iodine, and stimulants.
Nux Vomica. *Strychnia.*	Large doses of camphor, chloroform, and tobacco, may all be beneficial.
Poison Oak. *Poison Vine.*	Muriate of ammonia, in solution, may be applied externally, and from ten to fifteen grains given internally; soda is also useful.
NARCOTICS. *White Henbane.* *Opium.*	Sassafras may be used as an antidote for henbane. Belladonna is an antidote of opium; cold water should also be applied to the head of the patient, and the extremities should be well rubbed.
ANIMAL POISONS. *Spanish Fly.* *Potato Fly.*	Excite vomiting by drinking sweet oil. Sugar and water, milk, or linseed tea in large quantities, and emollient injections are valuable.

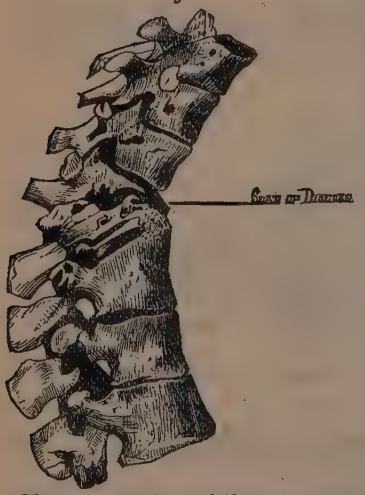
POSTERIOR SPINAL CURVATURE.

(Humpback.)

Posterior curvature of the spine, sometimes known as Pott's Disease, occurs most frequently in children, and is generally developed before the seventh year. Children of a scrofulous diathesis are especially liable to this affection. It is generally due to disease of the intervertebral cartilages and bodies of the vertebræ. It comes on in a slow, insidious manner, hence, it often makes serious inroads upon the spine and system before its character is even suspected.

Generally the first point of invasion is the cartilaginous substances between the bodies of the vertebræ, beginning with inflammation, and finally resulting in ulceration and a breaking-down of the cartilages. It next invades the vertebræ themselves, and producing caries, or death and decay of the bony substance, which softens and wastes away, as shown in Fig. 1. The vertebræ become softened and broken down, and weight of the body pressing them together produces the deformity known as "humpback." (See Fig. 2 and Fig. 3.)

Fig. 1.



The above portion of the spinal column shows the manner of the breaking down of the vertebræ from caries, and the absorption of their bony structure.

Symptoms. Among the various symptoms present in the earlier stages of the disease, and during its progress, we deem it necessary to mention only a few of the more prominent ones. While the patient is yet able to go around, the disease manifests itself by occasional pain in the bowels, stomach, and chest. Often there is a hacking cough, nervousness, lassitude, and a generally enfeebled condition of the whole system. The patient is easily fatigued; there is apparent loss of vitality, impaired appetite, a feeling of tightness across the stomach and chest, gradually declining health, and loss of flesh and strength, torpidity of the liver, deficient secretions, constipation, and morbid excretions from the kidneys. The victim, in passing chairs, tables, and other objects, instinctively places his hands upon them, and, as the disease progresses, when standing, leans upon some support whenever possible. In walking, he moves very carefully and cautiously, with elbows thrown back and chest forward, to assist the body in keeping its equilibrium. The body being kept in an

upright position, the patient bends the knees rather than the back in stooping, as illustrated in Fig. 5, and the body is frequently supported by the hands being placed upon the thighs or knees. Sudden movements or shocks cause more or less pain.

The development of the disease then becomes rapid; suffering increases, and pain about the joints and lower extremities and muscles of the posterior part of the pelvis is experienced; numbness and coldness of the extremities are felt; locomotion becomes more difficult, and a slight projection is observed upon the back. Even in this somewhat advanced stage of the disease, when the symptoms are so apparent, many cases are shamefully neglected because an ignorant adviser says it is nothing serious and that the patient will outgrow it. The pain and tenderness not always being in the back, the inexperienced are very often misled as to the true character of the trouble. This dis-

Fig. 2.

Fig. 3.

tortion or deformity of the back now becomes painfully prominent; the diseased vertebræ quickly soften and waste away; the pressure upon the spinal cord increases, and paralysis of the limbs supervenes; the power of locomotion is lost, and, at last. the danger is realized and the struggle for life begins.

Thus, through ignorance, neglect, and improper treatment, the poor, helpless victim is doomed to a life of hideous deformity and suffering. We would, therefore, urge upon parents whose children are afflicted with this terrible disease, the great importance of placing them under the care of surgeons who have for many years made the treatment of such cases a specialty, and who have every facility and all necessary surgical appliances for insuring success in every case undertaken.

Treatment. The great essentials for the successful treatment of disease and deformities of the spine are first, a thorough knowledge of the structure and parts involved by the disease; secondly, the

adjustment of mechanical appliances perfectly adapted to the requirements and necessities of each individual case, and the proper use of our system of "vitalization," applied to the spinal muscles to strengthen the weaker and relieve the undue contraction of the stronger. For many years our specialists have experimented, and have given the various appliances in common use in these cases most thorough and practical tests, and have found them very defective, being generally constructed upon wrong principles. The physician who sends to a

Fig. 4.

Appearance of a child suffering from Pott's disease of the spine.

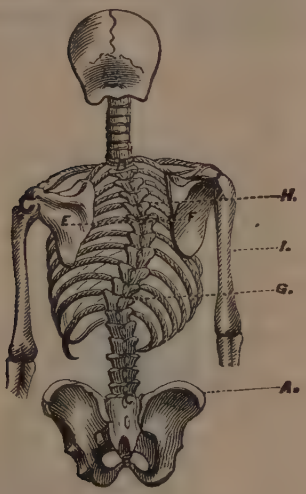
Fig. 5.

Mode of stooping adopted by a child suffering from spinal disease.

mechanic for an appliance, such as are now made in the shops of most instrument makers, and uses the same, is doing himself an injustice, and barbarously torturing his patient by forcing him to wear an apparatus which is heavy, clumsy, and inevitably injurious, instead of being beneficial in its results. In the treatment of diseases and deformities of the spine, there should be no compromising; the appliance that fails to give complete support should not be worn. In our treatment of these maladies we employ only appliances which are con-

structed under the personal supervision of our specialists, upon principles dictated by common sense and the actual necessities of the case. We do not confine the body in an iron jacket. Our apparatus is light, yet durable, and is worn by the most delicate children without pain or inconvenience. It gives proper support to all parts, and is so nicely adjusted as to produce pressure only upon those points which should receive support, leaving the muscles of the spine freedom of action, thereby assisting in their development. In many hundreds of cases

Fig. 6.



Lateral curvature of the spine, *E* to *F*, the primary curve.

Fig. 7.

A mild case of lateral curvature of the spine.

treated by our specialists, the disease has been entirely cured and the deformity removed. After seeing the patients and adjusting the appliances, they can generally be treated at their homes.

LATERAL CURVATURE OF THE SPINE.

(Crooked Back.)

This deformity appears more frequently in anæmic persons, in whom the flexibility and elasticity of the muscles are weakened, than in those of a plethoric habit. It is generally contracted during youth, between the ages of twelve and eighteen. Persons of sedentary and indolent habits are especially liable to this deformity, hence, girls are most frequently its victims. It is never seen among the natives of tropical countries who habitually live in the open air, and seldom among the

barbarous races of northern latitudes. A distinguishing feature of the American Indian is his erect carriage. The *primary* curvature is generally toward the right side, as represented in Figs. 6 and 7. Figs. 8 and 9 show the disease in a more advanced stage. The ribs are thus forced into an unnatural position, and the vital organs contained in the cavity of the chest are compressed or displaced, thus distorting the form of the whole upper portion of the body.

Symptoms. The first indication of lateral curvature of the spine is a marked projection of the right scapula, or shoulder-blade. It is sometimes first observed by the dressmaker, or, accidentally, while bathing. The right shoulder is slightly elevated, while the left hip is

Fig. 8.

Lateral curvature in an advanced stage.

Fig. 9.

Lateral curvature in an advanced stage.

depressed and projects upward. If not corrected while in its earlier stages, it progresses very rapidly, and a second curvature is developed. The symptoms vary in different cases, and in the early stages are somewhat obscure and undefined, but generally the patient feels a sense of uneasiness, languor, stupor, and nervousness, loss of energy and ambition, general debility, poor appetite, gradually declining health, loss of strength and flesh, and, as the disease progresses, a slight elevation of one of the shoulder-blades is noticed, as well as the deviation of the spine to one side. The curve, or distortion, of the spine increases more rapidly as the body becomes heavier, the spine often assuming the shape of the letter S, and, from compression by torsion of the vertebræ and distortion of the ribs, the vital organs are

encroached upon, causing serious functional derangement of the heart, lungs, liver, and stomach, producing, as its inevitable consequence a list of maladies fearful to contemplate.

Causes. In rare instances, the lateral curvature of the spine is due to defects of certain bones of the pelvis or limbs. Cases are recorded in which this deformity was caused by diseases of the abdominal organs, but, as we have intimated, it is generally due to a lack of tonicity of the muscles, or, as a late writer has expressed it, "Want of correspondence in the antagonism of those muscles which control the motions of the spinal column." Habitual sitting or standing in a leaning posture, or standing upon one foot, thus constantly using one set of the muscles of the back, while the other becomes enfeebled by the lack of exercise, is a common cause of this deformity. The habit which so many school-girls contract of drawing up one foot under the body while sitting, often produces a lateral curvature of the spine.

Treatment. No disease or deformity of the spine is so easily cured and perfectly corrected, if the proper plan of treatment is pursued. To correct this deformity, many ingenious forms of apparatus have been devised and invented by our specialists, which should be carefully adjusted to each individual case. In addition to this, our method of treatment by "vitalization," and by mechanical movements and manipulations, is almost indispensable in these cases. It never fails to give relief, and, if properly pursued, invariably results in a permanent cure.

DEFORMED FEET, HANDS AND LIMBS.

There are thousands whose feet, hands, and limbs are almost entirely useless, besides having an unsightly appearance. Their condition has been helpless so long, their treatment so varied, and their hopes of relief or cure have been so often disappointed, that few can believe the truth of our statement, when we positively assert that we can correct and cure nearly all cases of talipes, club, or crooked feet and deformed hands, and make them as perfect in appearance, and as useful in action, as feet and hands which have never been deformed. While this may seem miraculous, or even impossible, to those who are unacquainted with the wonderful improvements and rapid progress made in this department of surgical science, it is attested and verified by living witnesses whose feet and hands were once deformed and useless, but which have been made perfect by our new and improved method of treatment. We do not make these statements in a spirit of vain boastfulness, but having devoted many years to improving and perfecting surgical appliances and apparatus, and having had practical experience in the successful treatment of thousands of cases, we do say that our manner of treatment is original and employed only by us. We entirely ignore the ineffectual methods usually employed in such cases. Our treatment causes no pain, and little inconvenience, yet the

curative results are speedy and certain, and a hundredfold more satisfactory than those obtained by any other course.

We have most thoroughly tested all the best forms of treatment

Fig. 10.

Talipes Equinus.

Fig. 11.

Talipes Calcaneus.

heretofore devised and employed in this class of diseases, and have adopted the best features of all the various methods heretofore pursued. We have combined these with our own improvements and, as

Fig. 12.

Talipes Valgus.

Fig. 13.

Double Club-foot.

the result, we have perfected a thorough and efficient system of treatment, based upon scientific principles.

Fig. 14.

Bow-legs.

Fig. 15.

Knock-knees.

Fig. 16.

Fig. 17.

Fig. 18.

Fig. 19.

Fig. 20.

Fig. 21.

Fig. 22.

The above illustrations represent various Deformities cured by our Specialists at the Invalids' Hotel and Surgical Institute.

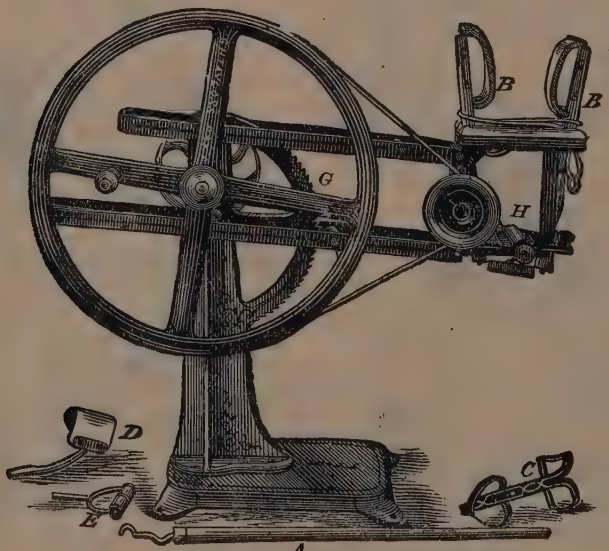
MECHANICAL AIDS

IN THE TREATMENT OF

CHRONIC DISEASES.

We have, in different parts of this work, referred to a large variety of ingeniously devised machinery and apparatus employed at the Invalids' Hotel and Surgical Institute, in the treatment of chronic diseases. Although we can, on paper, give but a meagre idea of the variety and adaptability of these valuable mechanical appliances, yet we will endeavor to illus-

Fig. 1.



The Manipulator.

trate and explain a few of our machines for the application of transmitted motion.

Fig. 1 represents a machine, called the Manipulator, which transmits motion through suitable attachments, which are adjustable by means of the ratchet *G*, so as to reach all parts of the body. It is equally available for applying motion to the head, feet, or any intermediate part of the body.

B, *B* are rubbing attachments, with two opposing elastic, adherent surfaces, between which an arm or a leg may be included. These have alternate reciprocating action from the rock-shaft *H*, and are made to approach each other, and press the included part at the will of the patient. This is sometimes called the double-rubber, and is made detachable if desired.

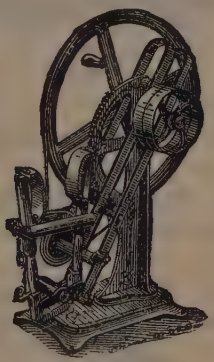
A is the lever, by which the two parts of the double-rubber are made to compress the arm or leg.

D is a single attachment for rubbing. It may be connected at either side of the machine, so as to present the rubbing

Fig. 2.

Manipulator Extended.

Fig. 3.



Manipulator Folded.

surface in four different directions, as may be most convenient. It will act perpendicularly, horizontally, or diagonally, and from below or from above the part receiving the action, according to requirements. The shank of the rubber may have any special form to suit special cases.

C is the *foot holder*. It communicates to the leg the semi-rotary or oscillating motion of the rock-shaft. It may be attached to either end of the rock-shaft.

E is the *hand holder*, which, grasped by the hand, communicates motion to the arm, shoulder, and chest; or the hand

may be inserted passively, when the effect of motion is more confined to the hand and fore-arm.

In the position shown in Fig. 2, by means of the single rubber attachment, the manipulator acts upon the upper portion of the trunk, neck, head, and arms; by means of the hand-holder, upon the arms; by means of the double-rubber, upon the arms, shoulders, and scalp.

Fig. 4.

Rubbing the Arms.

When the acting part or head is lowered to its extreme limit, the machine occupies the least space. In this position, by means of the foot-holder, it communicates oscillation to the legs; by means of the single-rubber, it acts upon the feet, ankles, and lower leg; by means of the double-rubber, it acts upon the legs, including the feet, the patient either sitting or lying.

In all of these applications of motion, energy travels from inanimate to animate matter; non-vital contributes to vital energy; and the various processes through which vital power is developed are promoted and carried forward in a degree till the point which constitutes health is attained.

Fig. 5.

Rubbing the Legs.

The name, *Manipulator*, is very naturally applied to the instrument, the action of which resembles so much that of the living operator. It is, however, impossible for the unaided hand to impart the degree of rapidity necessary to secure the effects easily attained by this machine; and,

practically, restoration is often secured in cases in which it is quite unattainable by any other remedial agent.

Motion, transmitted by the manipulator, exerts a curative effect in *all* chronic affections, and is not limited, as is sometimes supposed, to paralytic affections and deformities. In these latter affections it is a great assistance in effecting a cure; while, in chronic affections, whatever the local symptoms, it supplies the additional energy which is indispensable for recovery in all diseases of long standing.

Fig. 6.

Rubbing the Chest and Abdomen.

Mode of Operation.—Fig. 4 represents the manipulator in operation. The machine is propelled by steam power at the Invalids' Hotel and Surgical Institute, but may be worked by hand, as here represented. One arm is inserted between the double-rubbing pads, which are raised to about the height of the shoulders, the patient being seated at the side of the machine; the other hand is placed on the lever, and as much pressure is applied as is perfectly agreeable, care being taken to diminish the pressure at any part which is unusually sensitive. All portions of the arm from the shoulder down are successively included in the rubbers, while a suitable degree of reciprocating or rubbing action is obtained by giving motion to the wheel.

Fig. 7.

Rubbing the Back.

To apply the same operation to the other arm, the patient

may either turn in his seat or change his position to the opposite side of the machine.

If any portion of the extremity is affected with inflammation or swelling, it is necessary to apply the action described to the whole of the unaffected portion first; after this the affected part may be beneficially operated on, provided that the sensations are strictly heeded, and that it is so managed that only a comfortable feeling is produced.

Fig. 8.

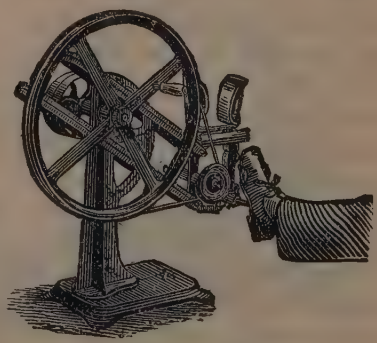
Oscillating the Arms and Chest.

In Fig. 5, the patient is so seated beside the machine that he can insert one thigh between the pads of the rubber, and also control the lever with the hand. It is sometimes more convenient to suspend a movable weight from the lever. While the machine is running, he can withdraw the leg gradually, as each portion receives its proper amount of action, till the whole, including the foot, becomes glowing with the effect. The boot or shoe affords no impediment to the effect, and should remain on.

To subject the other leg to the same movement, it is necessary to change position to the opposite side.

This operation can be applied to those who are extremely feeble, in the reclining position, by the aid of an extension chair or couch.

Fig. 9.



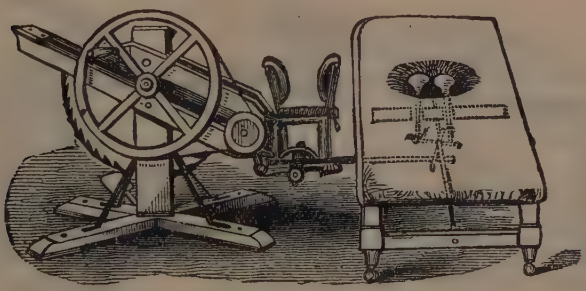
Oscillating the Legs.

Sometimes, especially in the beginning, or when the feet are habitually cold, it is better to apply the action only from the knees down.

The rubbing-pad (d) may be attached to either side of the

machine, according to convenience or effect sought. The action derived from the right end of the rock-shaft is much less severe than that from the left, on account of the shape of the rubber appendage, and at the beginning should be used in preference. In Fig. 6, the patient sits on an ordinary stool, or, if feeble, in a chair, and presents any portion of the chest or abdomen to the action of the rubber. The instrument is raised or lowered to suit convenience, while the patient gently presses portions of the trunk successively upon the rubbing-pad. The degree of the effect is thus always under the absolute control of the one receiving the action. This operation, like the preceding, produces great heat, reddens the skin, relieves pain,

Fig. 10.



Vibrator operated by Manipulator.

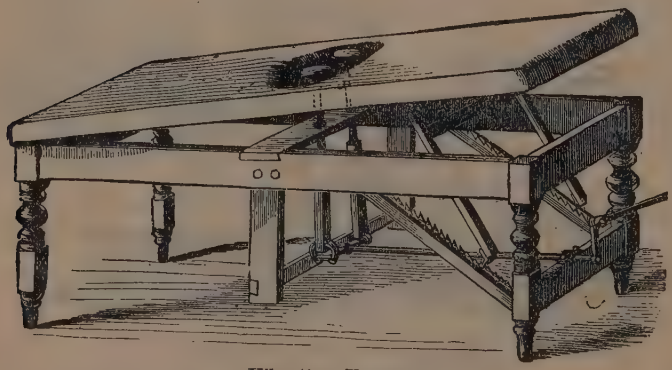
and greatly stimulates the functions, not only of the skin, but of the organs contained in the cavities of the chest and the abdomen.

The same operation may be applied also to the legs while the patient is standing.

In Fig. 7, the back is presented to the action of the rubbing-pad. The action will, if desired, be made to reach from the neck to the hips, and even to the thighs. All sensitive portions of the back should at first be omitted, in order that they may be benefited by the counter-irritation or drawing away of the blood. This is easily produced by those familiar with the use of the machine. The rubbing of the back should be deferred till the close of each application, in order that the spinal centers may be relieved of hyperæmia, or excess of blood.

The machine, as represented by Fig. 8, is brought to the desired elevation, about as high as the shoulders, and the hand-holder is attached. One arm is extended horizontally, and the hand grasps the hand-holder, while rapid motion is given by turning the wheel. An alternate twisting motion is communicated to the arm, which causes corresponding pressure and relaxation of all the soft tissues of the limb, combined with slight rubbing or attrition. The action is increased by contracting the muscles, and also by grasping at greater distance from the center. Both hands may grasp at the same time, or the two sides may receive the motion in turn. The effect is

Fig. 11.



Vibrating Kneader.

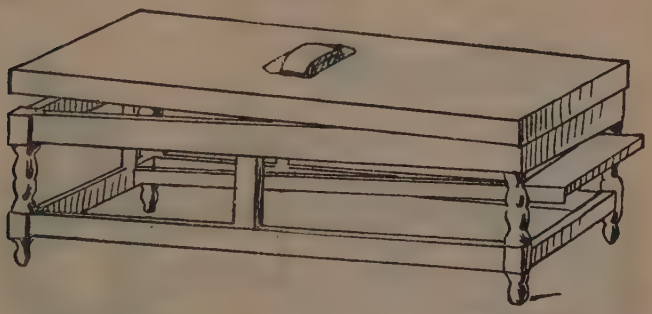
similar to that of the rubbing before described, but it is less limited; by grasping firmly, it may extend to the whole chest.

The foot-holder is attached, as shown in Fig. 9, and brought by the means before described to a position to receive one foot at a comfortable elevation, the leg being extended, while the patient is seated in an ordinary chair in an easy position. The action is precisely like that above described as applied to the arm, and extends to the thigh and pelvis. If the knee is slightly flexed, the action is almost entirely confined to the lower leg. Each leg may be operated on in turn.

Mode of Applying Mechanical Movements to Very Feeble Invalids.—Experience demonstrates that no degree of feebleness excludes the beneficial use of these operations. Invalids

too weak to stand, or able to help themselves in the least degree are often treated with perfect success. A judicious use of the Manipulator *always* increases nutrition and strength without any fatigue or exhaustion, however feeble the patient may be. It is only necessary to provide for these cases additional conveniences, so that the applications can be made in the recumbent position, and also that proper intervals of rest be allowed between successive operations. For this purpose couches are provided, each containing a certain portion of the Manipulator. These are operated by means of a short connecting-rod, joining the rock-shafts of the two pieces of mechanism, as shown in Fig. 10. The Vibrator has two small discs, or heads acting through

Fig. 12.



Apparatus for Rubbing in a Recumbent Position.

an opening in the couch on which the invalid rests. These impinge with a rapid, direct stroke upon the portion of the body exposed to the action. The top of the couch is adjustable, and is quickly placed at the elevation which secures the proper force of the instrument, as shown in Fig 11. By simply turning and moving the body, the patient brings any part in contact with the vibrating discs. The cut represents the Vibrator, in which the force impinges at right angles with the surface of the body, sending waves of motion through its substance.

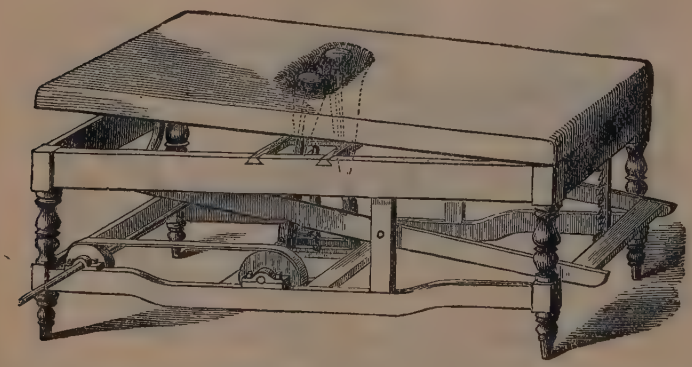
The rubbing which is shown in Figs. 4 and 5 may be applied to all parts of the body in a recumbent position. A couch is required of similar construction to the vibrating couch, but with a rubbing-pad instead of vibrating heads acting through the

opening and operated by appropriate connections, as shown in Fig. 12. The top is adjustable, and the degree of effect desired is capable of easy regulation. The patient turns different portions of the body to the action of the rubber as required.

Kneading. Kneading is a process applied chiefly to the abdomen. The purpose of this operation is to increase nutrition, the muscular power and action of the abdominal walls, and the function of the organs which they contain. Three modes of applying this operation by the mechanical apparatus are in use, effected by the Direct, the Rotary, and the Revolving Kneader.

The Direct Kneader. This resembles in form and

Fig. 13.



Apparatus for Rotary Kneading.

action the vibrating instrument shown in Fig. 11. The impinging heads, however, are made broader, the motion greater in extent, and the rate of motion less than one-tenth of that employed for the purpose of vibrating. This slowness of motion seems to increase the action of the muscles.

The Rotary Kneader. The action of the kneading heads in this form of apparatus, as shown in Fig. 13, is *inward* and *upward* alternately, and it is eminently well calculated to stimulate the action of the abdominal organs.

The Revolving Kneader. In the form of kneading apparatus, shown in Fig. 14, two thick rollers, which move freely on axes at the extremities of arms, projecting on either

side of a shaft turned by a crank or belt, are made to act alternately upon each side of the abdomen.

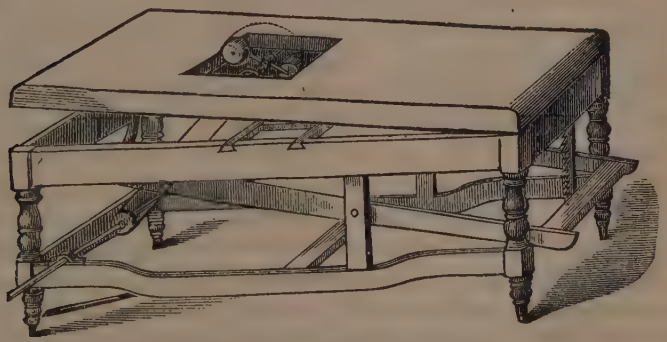
In the methods of kneading above described, the degree of force acting on the body is governed by an arrangement for elevating or depressing the upholstered top of the couch upon which the patient rests, and through which the action is transmitted to the body.

If this form of apparatus is driven at a rate ten times more rapidly than is desired for kneading, the effect is vibratory, and it is, in fact, used for that purpose.

THE CURE OF SWELLINGS AND TUMORS.

The application of motion through the Manipulator promotes absorption, and thus all kinds of *swellings* and non-malignant

Fig. 14.



Apparatus for Kneading with Rollers.

tumors are made to diminish under its use. In these cases the vessels of the affected part are distended with stagnant blood, and a portion of the fluid passes through their walls, distending the surrounding tissues, which become more or less hardened. By the transmission of active motion to the affected parts, the contents of the vessels are urged forward; the outside fluids are thus permitted to return to the general circulation and become subject to the energetic vital action of the general system, local deficiencies of oxidation being increased to the normal degree, causing destruction of morbid matter and giving place for new

and wholesome nutritive materials for vital use. In short, normal functional activity is established, both locally and generally. Scrofulous, dropsical, rheumatic, and other local accumulations disappear, and even tumors are dispersed, by the use of the Manipulator, in cases in which the knife would otherwise be required.

COUNTER-IRRITATION AND REVULSION.

Artificial means have always been employed to produce an energetic flow of blood in different parts of the body, thereby relieving morbid distention of the vessels, and consequent irritation and pain in neighboring parts. Cupping, hot applications, mustard, capsicum, blisters, and other irritants, are resorted to, but their effects, while generally very good in acute cases, are too transient to be of material aid in chronic affections. By the use of the Manipulator, we can produce the most thorough revulsive effects, operating upon large surfaces, and causing large masses of muscle to receive an increased amount of blood, thus drawing it away from parts oppressed by too great a supply, constituting engorgement. No injury is done to the parts acted upon; on the contrary, they are strengthened by the application, which can be repeated as often as necessary till relief is permanent. Thus, the head, heart, digestive organs, liver, chest, or whatever part is oppressed by excess of blood, may be speedily and permanently relieved. By means of this ability to relieve any part of the system from engorgement, and consequent inflammation and its results, are we enabled to permanently cure a large variety of chronic inflammatory, ulcerative, and nervous affections.

Local inflammations by this method of treatment may be speedily cured.

CURE OF NEURALGIA.

By the transmission of motion through the Manipulator and other ingeniously devised apparatus and machinery, we increase the functional power and activity of the muscles, and thereby diminish morbid sensibility of the nerves, which is present in neuralgia. Prolonged and excessive nervous action is attended with too great a rush of blood to the nerve-centers, which can

only be relieved by increasing the flow in the muscles. Congestion, or hyperæmia, in the spinal cord or brain, or both, is a condition ever present in neuralgia. The application of motion through the manipulator causes the blood to flow to the muscles, thus relieving nervous congestion and consequent neuralgia.

CURE OF PARALYSIS.

In no single disease has the transmission of motion through the Manipulator proved more thoroughly efficacious than in *paralysis*. The most prominent requirements in these cases seem to be the following:

Excess of blood in the brain and spinal cord needs to be removed and diverted to parts in which it will be useful instead of obstructive.

The contractile power of the capillaries should be improved.

The quality of nutritive fluids should be improved by the promotion of oxidation through increased circulation.

These and many more wants of disordered nerves, are readily supplied by transmitted motion.

The Manipulator combines, in a single ingenious mechanical contrivance, the several movements best adapted for the promotion of healthy functional activity.

CURE OF DEFORMITIES.

Deformities arising from *paralysis and contractions of muscles and tendons*, producing stiffened joints and distorted limbs, are of common occurrence. A rational explanation of the wonderful curative results which follow the employment of transmitted motion in these cases may not be without interest to the reader. The muscles are composed of *bundles* of little fibers which glide upon one another in every movement. Another set of fibers called *connective tissue*, holds the fibers together in bundles or separate muscles, and interlaces and crosses them in every direction. Now, if these fibers remain long in a fixed position, or are involved in inflammation, there is danger of adhesions forming between them, producing permanent immobility; gliding movements are interfered with, and the muscle ceases to perform its function. Inflammation

gives rise to effusion, or the formation of a kind of cement which binds together the muscular fibers and prevents motion.

Rubbing, kneading, and actively manipulating the affected parts with that intensity of administration secured by the manipulator, rends asunder and breaks up these minute adhesions, re-establishing gliding motions, causes absorption of effused materials, and restores the affected part to a normal condition.

Fig. 15.

Muscular fibers highly magnified.

The deformed limb is straightened by the filling out of the muscle-cells, and increasing the length and also the nutrition of the affected muscles. No pulling or *forced extension* is required. Deformity ceases when the conditions upon which it depends are removed by rational appliances, which are always agreeable. No brace, splints, or other confining appliances are necessary, except in rare cases in which the bones are very badly distorted.

In withered and deformed limbs, resulting from infantile paralysis, the manipulator furnishes the most agreeable, direct, and certain remedy. It restores nutrition, sensation, and power, and dispenses almost wholly with mechanical supports. Club-feet, wry neck, spinal curvature, hip-joint disease, white swellings, and stiffened joints, are all readily amendable to the curative effects of motion administered by the manipulator and other machinery.

Contracted and shortened muscles are gradually lengthened by vigorous, long-continued, and frequently repeated rubbing with the manipulator across their longitudinal fibers; bound-down and confined tendons are liberated and normal movements established.

DISEASES OF WOMEN.

Uterine and ovarian congestion, chronic inflammation, discharges, morbid enlargement, prolapsus, anteversion and retroversion, anteflexion and retroflexion, and other derangements of the womb and its appendages, are radically cured by the vibratory, rubbing, kneading, and other movements, administered

through the manipulator and other mechanical appliances employed at the Invalids' Hotel and Surgical Institute.

To those who are tired of taking medicine, this mode of treatment commends itself as being both agreeable and efficient. There is no case too weak, nervous, or helpless for the use of this curative agent. It is entirely devoid of objectional features, being *always applied outside the clothing.*

Cause of Female Weakness. The true relations of cause and effect are very liable to be misunderstood, when considering the various diseases incident to the organs contained in the female pelvis. Treatment intended to be remedial is therefore very often misdirected and fails to afford relief, positive injury frequently resulting instead. When the nature of these diseases is properly understood, their cure can be effected with comparative ease.

These diseases are always attended with weakness, which is often very great, of the muscles that hold the diseased organs in position. The muscles forming the walls of the abdomen, and the diaphragm, or midriff, all of which are concerned in the act of respiration, become feeble and only partially perform their functions. In health, they act constantly, even during sleep, producing a rhythmical movement, which is communicated to the contents of the abdominal and pelvic cavities. This motion promotes a healthy circulation in the parts. In almost all affections of the pelvic organs, this normal condition is greatly diminished.

Diminution of the motions of respiration is attended with an increase of the amount of the blood in the pelvic organs, constituting an engorgement of the parts, called congestion, or inflammation. This gives rise to enlargement of the womb, ulcerations, tumors, and a multitude of kindred secondary effects, usually considered as the primary disease and treated as such. The contents of the cavity of the trunk, weighing several pounds, are allowed to gravitate down and rest upon the contents of the pelvis, forcing the congested uterus and ovaries down out of their natural positions, and often bending or tipping the womb in various directions. A long list of symptoms follows as the natural consequence of these abnormal conditions.

Rational Treatment. Ovarian congestion and inflam-

mation, inflammation of the uterus, ulceration of this organ, deranged menstruation, leucorrhea with the attendant pain, nervousness, and other derangements depending upon loss of supporting power in the abdominal muscles, all result from loss of the *natural* motions of respiration, and consequent deranged circulation. These several conditions can be cured by removing their cause. When the power of the parts involved in the weakness is restored, all these morbid conditions disappear. Judicious cultivation of power in the weakened supports is attended with certain curative results. This is best accomplished by mechanical motion, by which the normal circulation is restored, inflammations and congestions are subdued, displacements corrected, ulcers healed, and functional activity is re-established.

RECAPITULATION.

Motion properly transmitted to the human system by mechanical apparatus is transformed into other forms of force identical with vital energy, by which the ordinary processes of the system are greatly promoted.

It increases animal heat and nervous and muscular power to the normal standard.

It removes engorgement or local impediments to the circulation.

The electrical induction produced renders it a most efficacious remedy for paralysis of all kinds.

It removes interstitial fluids and causes rapid absorption and disappearance of solid and fluid accumulations.

It is a powerful alterative, or blood-purifier, increasing oxidation and stimulating excretion.

It diminishes chronic nervous irritability and promotes sleep.

Deformities are easily cured without the cutting of tendons, or use of mechanical supports.

It hardens the flesh by increasing muscular development and improves digestion and nutrition.

World's Dispensary Medical Association

Incorporated under Statute Enacted by the Legislature of New York.

Dr. R. V. Pierce, having acquired a world-wide reputation in the treatment of Chronic Diseases, resulting in a professional business far exceeding his individual ability to conduct, some years ago induced several medical gentlemen of high professional standing to associate themselves with him, as the Faculty of the World's Dispensary and Surgical Institute, the Consulting Department of which has since been merged into the Invalids' Hotel. The organization is duly incorporated under a statute enacted by the Legislature of the State of New York, and under the name and style of the "World's Dispensary Medical Association," of which Dr. Pierce is President, and in the affairs of which he will, as heretofore, take an active and constant part.

EUROPEAN BRANCH, No. 3 New Oxford Street, LONDON, Eng.

IMPORTANT ANNOUNCEMENT.

Dr. R. V. Pierce, having in the Fall of 1880 resigned his seat in Congress, has since been able to devote his whole time and attention to the interests of the Association, and those consulting our Medical and Surgical Faculty have the full benefits of his counsel and professional services. That he should prefer to give up a high and honorable position in the councils of the nation, to serve the sick, is conclusive evidence of his devotion to their interests and of love for his profession.

Invalids' Hotel and Surgical Institute, 663 Main Street, Buffalo, N. Y.

INVALIDS' HOTEL

A MODEL SANITARIUM AND SURGICAL INSTITUTE.

NOT A HOSPITAL, BUT A PLEASANT REMEDIAL HOME,

ORGANIZED WITH

A FULL STAFF OF EIGHTEEN PHYSICIANS AND SURGEONS

AND EXCLUSIVELY DEVOTED TO THE

TREATMENT OF ALL CHRONIC DISEASES.

This imposing Establishment was designed and erected to accommodate the large number of invalids who visit Buffalo from every State and Territory, as well as from many foreign lands, that they may avail themselves of the professional services of the Staff of Skilled Specialists in Medicine and Surgery that compose the Faculty of this widely-celebrated institution.

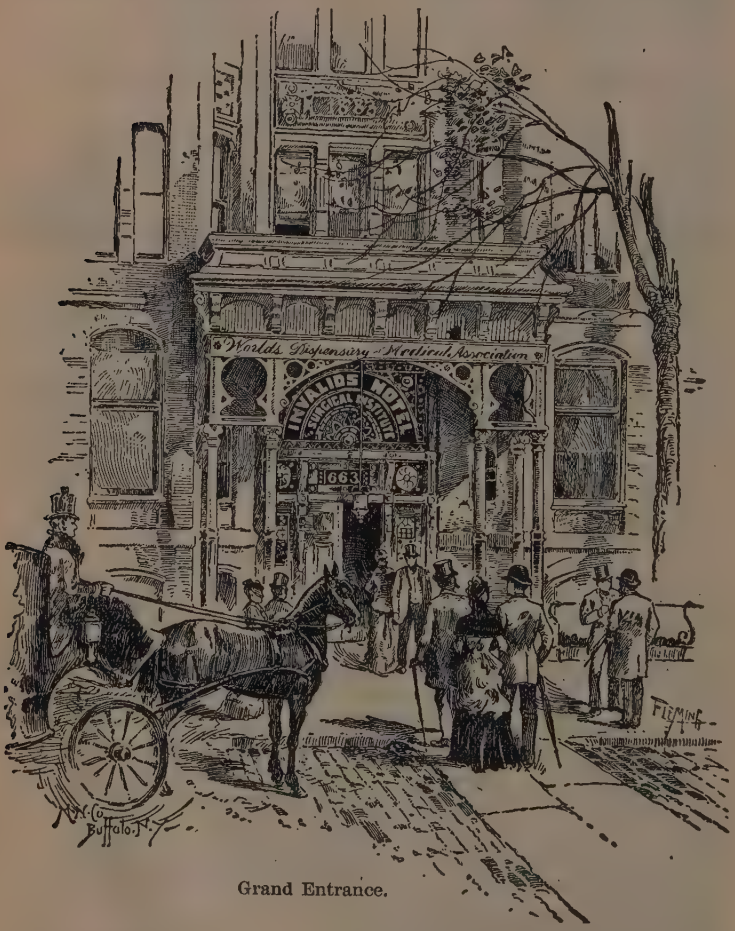
DESTROYED BY FIRE.

On the sixteenth of February, 1881, the original Invalids' Hotel was totally destroyed by fire. Although occupied at the time by a large number of invalids, yet, through the extraordinary exertions of the Faculty and employés, all were safely removed from the building without injury to any one. The Board of Trustees took prompt steps to rebuild, for the accommodation of the many sufferers who apply, to avail themselves of the skill, facilities and advantages of treatment which such a perfectly equipped establishment affords. Profiting by the experience afforded by several years' occupancy of the original Invalids' Hotel building, which at the date of its erection was the largest and most complete establishment of its kind in the world, we believe we have, in the building of the elegant structure illustrated herein, made great improvements over the original Invalids' Hotel, for the accommodation of our patients. Although our new building has only been occupied about two years, yet already (November 1st, 1884) our business has required the erection of a very large addition thereto, to accommodate our growing practice. This large *Annex*, which is about the size

of the original building, although but recently occupied, is now well filled with patients, hailing from every State and Territory of the Union.

THE INVALIDS' HOTEL AND SURGICAL INSTITUTE IS PLEASANTLY SITUATED AT No. 663 MAIN STREET,

in the city of Buffalo, just above and outside the business and bustle of this Queen City of the Lakes. It is easily reached from the railroad



Grand Entrance.

depots by the Exchange and Main Street car lines (see map on last page of this book). It is a substantially built brick building, trimmed with sandstone, well lighted and provided with a patent hydraulic elevator, so that its upper stories are quite as desirable as any, being more

quiet than those lower down. It is well provided with fire escapes, and, in fact, nothing has been neglected that can add to the comfort and home-like make-up of this popular national resort for the invalid and afflicted. Great pains and expense have been assumed in providing perfect ventilation for every room and part of the building. The sur-

Ante-room.—Invalids' Hotel and Surgical Institute.

roundings of the Hotel are very pleasant, it being located in the finest built part of the city, among the most elegant residences.

STAFF OF PHYSICIANS AND SURGEONS.

Only men who are, by thorough education and experience, especially fitted to fill their respective positions, have been chosen to serve as physicians and surgeons in this institution. After having spent a very large sum of money in erecting and furnishing this national resort for invalids with every requirement and facility for the successful treatment of all classes of chronic diseases, it is the determination of the Board of Directors that the Faculty of Physicians and Surgeons shall be superior in culture, experience and skill.

We have not the space to speak, individually, of the eighteen professional gentlemen composing the Faculty, but will say that among them are those whose long connection with the World's Dispensary and Surgical Institute has given them great experience and rendered them *experts* in their specialties. Several of them had previously distinguished themselves in both private and hospital practice, had held important chairs as lecturers and teachers in Medical Colleges, and had filled

responsible positions in military and civil hospitals; also in some of the most noted Asylums, Dispensaries, and Sanitary Institutions in the land.

With such a staff of Physicians and Surgeons, efficient and trained nurses, and with all the most approved sanitary, medical and surgical appliances which study, experience, invention and the most liberal expenditure of money, can produce and bring together in one institution, the Invalids' Hotel and Surgical Institute affords the afflicted unusual opportunities for relief.

THE GRAND ENTRANCE.

The entrance to the Invalids' Hotel and Surgical Institute is covered by a lofty porch of beautiful design, the roof of which is supported upon heavy iron columns. Above the massive double doors, through

Gentlemen's Reception-room,
Invalids' Hotel and Surgical Institute.

which the visitor enters, are large, heavy panels of beautifully wrought stained glass, on which the words "Invalids' Hotel and Surgical Institute" stand out conspicuously.

FIRST FLOOR.

The first floor of the building is reached through a beautifully finished vestibule, by a short flight of broad, easy stairs, and once inside the visitor is struck by the beauty of design as well as by the home-like

appearance of the surroundings. The wood-work is mainly of hard woods, oak and cherry predominating. In a large part of the house the floors are of oak, with a cherry border, neatly finished in oil and shellac, and covered with rich rugs and elegant carpets of the very best quality.

Ladies' Parlor.—Invalids' Hotel and Surgical Institute.

On the first floor is the gentlemen's reception-room, which is thronged with patients from early in the morning until late in the afternoon. It is entirely distinct from the large reception-room and parlors for lady patients, and the utmost privacy is secured throughout the whole arrangement of the Institution. On this floor are the suites of offices, parlors, and private consultation-rooms, some fifteen in all, also a well furnished reading-room and circulating library, for the use of the inmates of the Institution. On all sides are beautifully frescoed walls adorned with numerous choice engravings and other pictures. All the rooms throughout the house are furnished in the best of style, and in a manner to afford the utmost comfort and cheerfulness of surroundings

for the sick and afflicted who seek this remedial resort. The Turkish and other baths are elegantly fitted up on the first floor, opposite the reading-room.

THE UPPER FLOORS.

Above the first, or main floor, the building is divided off into separate rooms and suits of rooms for the accommodation of patients. All are

Library and Reading-room.—Invalids' Hotel and Surgical Institute.

well lighted, have high ceilings, and are cheerful and well ventilated apartments. On the second floor is the large medical library and medical council-room, for the exclusive use of the Faculty, also the museum-room, which contains a large and valuable collection of anatomical and morbid specimens, many of them being representations of cases treated in the Institution. On this floor are also suits of rooms, occupied by the Bureau of Medical Correspondence, wherein from ten to twelve physicians, with their stenographers, or short-hand writers, are constantly employed in attending to the vast correspondence received from invalids residing in all parts of the United States and Canada. Every important case receives the careful consideration of a council composed of from three to five of these expert specialists, before being finally passed upon and prescribed for.

ON THE THIRD FLOOR

are the large treatment-rooms, supplied with all the apparatus and appliances for the successful management of every chronic malady incident to humanity. Electrical apparatus of the latest and most approved kinds, some of it driven and operated by steam-power, dry cupping and equalizing-treatment apparatus, "vitalization" apparatus, numerous and most ingenious rubbing and manipulating apparatus and machinery, driven by steam-power, are among the almost innumerable curative agencies that are here brought into use as aids in the cure of human ailments.

FOURTH FLOOR.

On the fourth floor are located the surgical operating-rooms and surgical wards. There are also a large number of nice, large, well fur-

President Pierce's Business Office.—Invalids' Hotel and Surgical Institute.

nished separate rooms on this floor, used principally for the accommodation of surgical cases. Strong, broad, iron staircases connect all the upper floors with the ground, so that in case of fire, patients need have no fear of being able to get out safely. In fact, the building has been constructed so as to render the rapid spread of fire through it impossible, all the floors being laid on cement.

is provided, so that the upper floors are quite as desirable as those lower down. The dining-rooms for gentlemen, as well as those for ladies, are located in the basement, which is reached either by stairways or by the elevator. The kitchen, store-rooms, chill-rooms, pantries, and all culinary arrangements are also in the basement. In the opposite end of the basement are the large dispensing-rooms, stocked with drugs and medical compounds of almost endless variety, and representing every branch of the *materia medica*. Here all medicines prescribed are most carefully and specially prepared for each individual case. Those to be sent away by mail or express, to patients being treated at a distance,

Office of our Chief-of-Staff.—Invalids' Hotel and Surgical Institute.

are placed in trays, with full directions for use, and sent to another large room, where they are carefully packed and shipped thence to their destination.

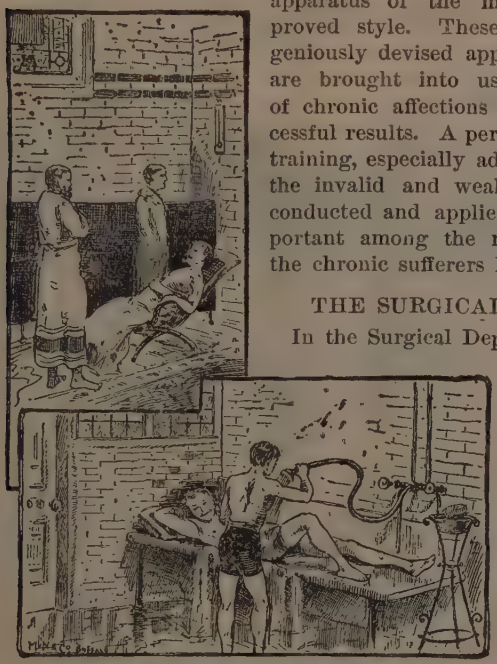
FIRE-PROOF VAULTS.

Six large fire-proof vaults are provided in this building in which to preserve, secure from observation, as well as from fire, all records of cases examined and treated by the Faculty.

Throughout all this vast building the visitor is struck with the wonderful order and system with which every detail is carried out.

THE BATH DEPARTMENT.

The Invalids' Hotel and Surgical Institute, as hereinbefore indicated, is provided with Turkish, and other approved baths, with a treatment-room, fitted up with vacuum and movement-treatment apparatus of the most modern and approved style. These and much more ingeniously devised apparatus and appliances are brought into use in a great variety of chronic affections with marvelously successful results. A perfect system of physical training, especially adapted to the wants of the invalid and weak, and most skillfully conducted and applied, is not the least important among the many advantages that the chronic sufferers here find.



A glimpse at the Turkish Bath Department.

THE SURGICAL DEPARTMENT.

In the Surgical Department, every instrument and appliance approved by the modern operater is provided, and many and ingenious are the instruments and devices that the Faculty of this institution have invented and perfected to meet the wants of their numerous cases.

OUR REMEDIES.

In the prescribing of remedies for disease, the Staff resort to the whole broad field of *materia medica*, allowing themselves to be hampered by no school, *ism*, *pathy*, or sect. The medicines employed are all prepared by skilled chemists and pharmacists, and the greatest care is exercised to have them manufactured from the freshest and purest ingredients. Our Faculty probably employ a greater number and variety of extracts from native roots, barks and herbs in their practice than are used in any other invalids' resort in the land. All of the vegetable extracts exployed in our practice are prepared in our own Laboratory.

REGULATION OF DIET.

The table is supplied with an abundance of wholesome and nutritious food, especially adapted and prepared to suit the invalid, it being varied to suit each particular case. The Faculty recognize the importance of

proper food as one of the greatest factors in the treatment of chronic diseases. While properly regulating and restricting the food of the invalid when necessary, they also recognize the fact that many are benefited by a liberal diet of the most substantial food, as steaks, eggs,

View of Buffalo Park Lake.

oysters, milk, and other very nutritious articles of diet, which are always provided in abundance for those for whom they are suited.

From previous experience somewhere, some people get the impression that they are to be half starved at such an institution as this. If this is the case anywhere it is not so here, as any one who has ever resided at our sanitarium will attest.

TRAINED ATTENDANTS.

A sufficient number of trained and experienced nurses are employed, that those requiring attendance may have the very best of care.

GOOD ORDER.

The institution is conducted in an orderly manner, that the utmost quiet may be secured. The Faculty insist, upon the part of the invalid, while under treatment, on the observance of habits of regularity in eating, sleeping, bathing and exercise. Only by such observance of hygienic laws can they succeed in their course of remedial training, and make their treatment curative.

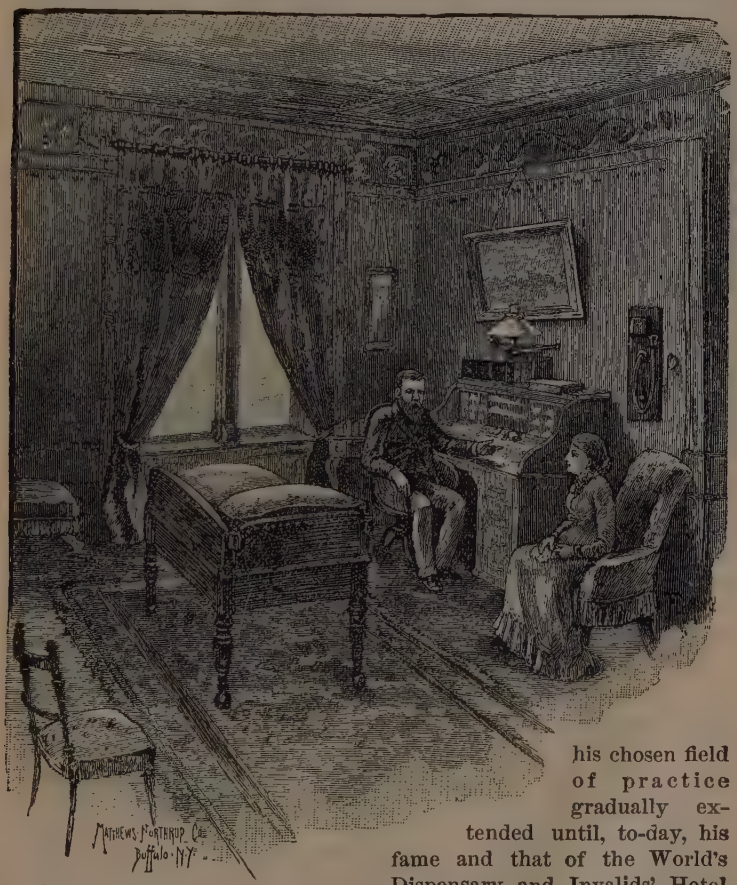
AMUSEMENTS.

While insisting upon strict observance of rules established for the good of the patient, they do not make their requirements so rigid as to interfere with the comfort and enjoyment of their patients, but, on the contrary, endeavor, in every manner possible, to provide innocent and

entertaining amusements for all, recognizing the great importance of pleasant occupation of the mind, as an essential part of the treatment. Hence the introduction of music, amusing games, light reading, and kindred agencies for pleasant entertainment, is not neglected.

UNPARALLELED SUCCESS.

The founder of this institution commenced, many years ago, with little capital, to build up a business in the treatment of chronic diseases and devoted himself diligently to that end. His reputation for skill in



One of the Private Consultation-rooms, Ladies' Department.

his chosen field of practice gradually extended until, to-day, his fame and that of the World's Dispensary and Invalids' Hotel and Surgical Institute, is simply world-wide. As the business increased those eminent for skill have been induced to join the Faculty, until eighteen professional gentlemen, each devoting his

attention to a special branch of practice, now (November 1st, 1884) constitute the Medical and Surgical Staff.

One reason why we excel in the treatment of *chronic diseases* is the fact that we are supplied with all the modern improvements in the way

View of Prospect Park, Buffalo, from Prospect Avenue.

of instruments, appliances and remedial agents used in the healing art, the expense of which deters the local physician in general practice from procuring, for the treatment of the limited number of cases that come within the circuit of his practice. The treatment of such cases requires special attention and special study to be successful.

A COMMON SENSE VIEW.

It is a well-known fact, that appeals to the judgement of every thinking person, that a physician who devotes his whole time to the study and investigation of a certain class of diseases, must become better qualified to treat such diseases than he who attempts to treat every ill to which flesh is heir, without giving special attention to any particular class of diseases. Men, in all ages of the world, who have *made their marks*, or who have become famous, have devoted their lives to some special branch of science, art or literature.

LIBERALITY.

We wage no war against any physician, no matter what school of medicine he may represent; but, on the other hand, we invite the

co-operation of all regular physicians. We are always ready and willing to impart to them any information or render any assistance that will be of mutual benefit to them and their patients.

OUR PHYSICIANS AND SURGEONS

do not travel to solicit practice, having all the business that they can attend to at our institution, nor do we employ any agents to travel and peddle or otherwise sell our medicines. If any one engaged in such business, represents himself as in any way connected with our institutions he is a swindler and should be apprehended and prosecuted as such. And any one who will give us such information as will lead to the arrest and conviction of any person so misrepresenting will be liberally rewarded.

Undergoing Examination of the Lungs
at the Invalids' Hotel and Surgical Institute.

While not permitting any member of our professional staff to travel and solicit practice, yet we are always willing to accommodate and send a specialist to visit important or critical cases in consultation, or otherwise, or to perform important surgical operations as explained on page 971 of this book.

Let no one deceive you by representing that they have heretofore

been connected with our institution and have thereby learned our original and improved methods of treatment. We have a large and competent Staff of Specialists and while we have sometimes found it necessary to make changes, yet we always manage to retain the most expert and skillful, as we cannot afford to part with the services of those who excel.

By adopting similar names to those which have long designated our world-famed institutions, some have endeavored to deceive and mislead

Scene in Buffalo Park.—Artificial Lake and Boat-house.

invalids who were seeking relief. Others have named so-called "Electric" Trusses, "Liver Pads," and other contrivances after our President, thereby expecting to reap benefits from Dr. Pierce's well-known professional standing. Neither the Doctor nor this Association have any interest in any such articles.

NO BRANCHES.—Remember we have no branches except at No. 3 New Oxford Street, London, England.

Those desiring to consult us by letter, should address all communications plainly to

WORLD'S DISPENSARY MEDICAL ASSOCIATION,

No. 663 MAIN STREET,

BUFFALO, N. Y.

WORLD'S DISPENSARY.

The immense building erected and occupied by the World's Dispensary Medical Association as a Laboratory, wherein are manufactured our Dr. Pierce's Standard Family Medicines, as well as all the various

World's Dispensary.—New Laboratory Building.

Tinctures, Fluid Extracts and other pharmaceutical preparations used by the Staff of Physicians and Surgeons of the Invalids' Hotel and Surgical Institute in their practice, is not inappropriately called the *World's Dispensary*, for within its walls are prepared a series of remedies of such exceeding merit that they have acquired world-wide fame, and are sold in vast quantities in nearly every civilized country.

The structure, located at 660 to 670 Washington Street, immediately in the rear of the Invalids' Hotel and Surgical Institute, is of brick, with sandstone trimmings, six stories high, and 100 feet square. Its most striking architectural features exteriorly are massiveness, combined with grace and beauty of outline, and great strength.

THE BASEMENT.

The basement or first story opens on a level with the Washington Street sidewalk, and is occupied by a plant of three large boilers, which supply the steam used to run a huge Corliss engine, of 100 horse-power,

which is also located on this floor. This powerful engine drives all the machinery of the establishment, including drug mills, pill machines, packing machinery, a large number of printing presses, folding machines, stitching, trimming, and many other machines, located on the different floors, and used in the manufacture of medicines, books, pamphlets, circulars, posters, and other printed matter. On this floor is located steam bottle-washing machinery, and also the shipping department. Here may be seen huge piles of medicine, boxed, marked, and ready for shipment to all parts of the civilized world. A large steam freight elevator leads from this to the floors above.

MAIN FLOOR.

The main or second floor of the Dispensary is entered from Main Street, through a hall leading from the Invalids' Hotel and Surgical

Postal Advertising Department, Wrapping and Mailing-room.

Institute. On this floor are located business offices, counting-room, the advertising department and mailing rooms. Large, fire-proof vaults are provided for the safe keeping of books, papers, and valuables, whilst the counting-room and offices are elegantly finished in hard woods, and present a beautiful and grand appearance.

THIRD FLOOR.

On this floor are the Association's extensive printing and binding works. Fourteen large presses, driven by power, with numerous folding machines, trimming, cutting, and stitching machinery, are constantly running in this department. Here is printed and bound Dr. Pierce's popular work of over a thousand pages, denominated "The People's Common Sense Medical Adviser," over 680,000 copies of which have

A corner in Printing Department.—World's Dispensary.

been sold. Millions of pocket memorandum books, pamphlets, circulars and cards are also issued from this department and scattered broadcast to every quarter of the globe.

FOURTH FLOOR.

Large mills for crushing, grinding and pulverizing roots, barks, herbs, and other drugs occupy a considerable part of this floor. Extensive drying-rooms, in which articles to be ground in the drug mills are properly dried, are also located upon this floor, as are also thousands of reams of paper ready for printing the differents books, pamphlets, labels, etc. In large rooms set aside for that purpose, are stored vast quantities of labels and wrappers, for use in putting up medicines.

FIFTH FLOOR.

On this floor is located ingeniously devised filling and bottling machinery, also rooms for labelling, wrapping, and packing medicines; others are occupied for the storage of crude drugs, glass, corks, and supplies for use in the general business.

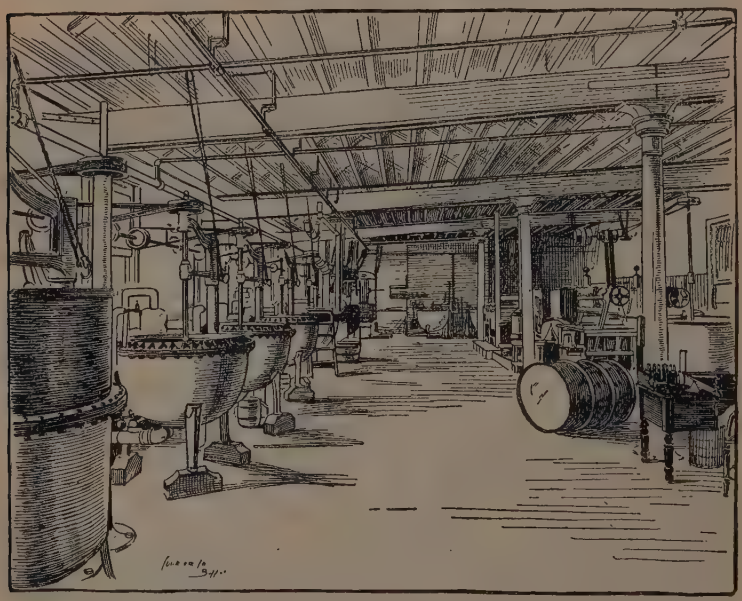
SIXTH FLOOR.

This entire floor is occupied with mixing, percolating, distilling,

filtering, and other apparatus employed in the manufacturing of medicines. Every process is conducted under the watchful care of an experienced chemist and pharmacist, and in the most perfect and orderly manner; the apparatus employed being of the most approved character. Here are manufactured all the various medicinal preparations and compounds prescribed by the Faculty, in the treatment of special cases.

GENERAL CONSIDERATIONS.

In all departments of this vast business establishment, the visitor is struck with the perfect system which everywhere prevails, and the



Section of Chemical Laboratory.—World's Dispensary.

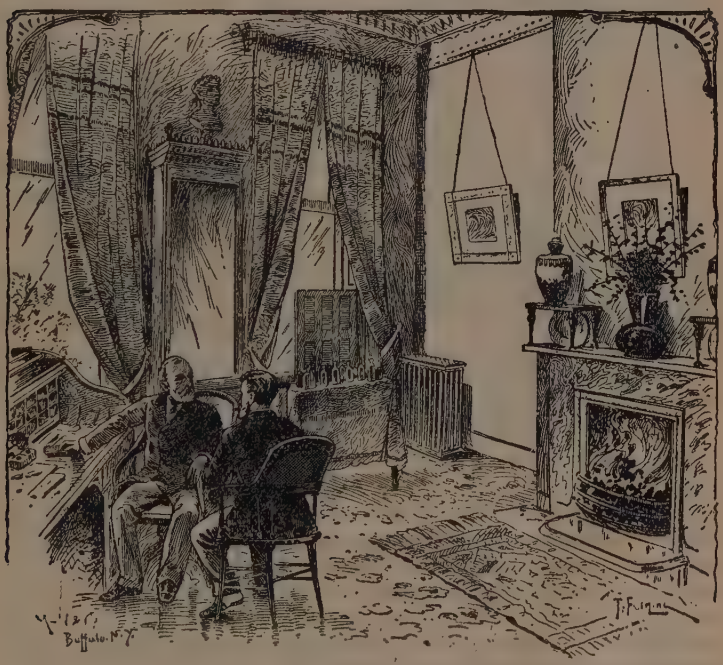
wonderful accuracy with which every process and transaction is carried on and consummated; hence the uniformity of purity and strength for which the medicines here manufactured have so long been celebrated. To this, also, is due much of the marvelous success attained in the department established for the special treatment of chronic and obstinate cases of disease. In this department the Faculty are not at all limited or hampered in prescribing, and do not confine themselves in the least to the proprietary or standard medicines manufactured for general sale through druggists, but employ a range of curative agents unsurpassed in variety and range of application. They aim to carefully adapt their prescriptions to each individual case.

THE

Invalids' Hotel and Surgical Institute

SOME OF THE CAUSES THAT LED TO ITS ERECTION, AND THE ADVANTAGES WHICH IT AFFORDS.

The destinies of institutions, like those of men, are often determined by pre-existing causes. The destinies of some men are like those of way-side plants, springing up without other apparent cause than the caprice of nature, developing without any apparent aim, yielding no



One of the Private Consultation-rooms, Gentlemen's Department.

perfected fruit, and, finally, dying, leaving scarcely a trace of their existence. Thus it is with institutions which have their origin only in man's caprice. To be enduring, they must be founded upon the needs and necessities of humanity. Many of the great men of the world owe their greatness more to surrounding circumstances than to the genius

within them. For the highest genius can be dwarfed or deformed by the force of adverse circumstances; hence the poetic truth of Gray in those exquisite lines:

"Some mute inglorious Milton here may lie,
Some Cromwell guiltless of his country's blood."

Opportunity is the guiding star of genius. Without it, genius would drift hither and thither upon the restless, ever-changing waves of circumstance, never casting anchor in a secure haven. Upon opportunity, too, depends the success of institutions. By opportunity we mean a real and acknowledged public want. Whoever undertakes to supply this want finds himself upon the crest-wave of prosperity. It was to supply such a want that this institution was erected.

A REMEDIAL HOME.

Of the forty millions of people living in the United States to-day, it is estimated that nearly eight millions are sufferers from chronic disease. Think for a moment! Eight millions of people slowly but surely dying by the insidious and fatal development of chronic disease! This is an appalling fact. And yet this is the very class of diseases with which the general practitioner is least familiar.

As a general practitioner of the healing art, fresh from *curriculum*, the founder of this institution early realized that the great unpardonable sin of the medical profession is the neglect to more thoroughly study and investigate this class of diseases.

The profession is diligently cauterizing and poulticing the sores which now and then appear on the surface, but the internal chronic disease, of which these are merely the external signs, is too often overlooked or neglected.

Some years ago we devised and put into practical operation a method of

TREATING PATIENTS AT THEIR HOMES,

without requiring them to undergo personal examinations. We reasoned that the physician has abundant opportunity to accurately determine the nature of most chronic diseases without ever seeing the patient. In substantiating that proposition, we cited the perfect *accuracy* with which scientists are enabled to deduce the most minute particulars in their several departments, which appears almost miraculous, if we view the subject in the light of the early ages. Take, for example, the electro-magnetic telegraph, the greatest invention of the age. Is it not a marvelous degree of accuracy which enables an operator to *exactly* locate a fracture in a sub-marine cable nearly three thousand miles long? Our venerable "clerk of the weather" has become so thoroughly familiar with the most wayward elements of nature that he can accurately predict their movements. He can sit in Washington and foretell what the weather will be in Florida or New York, as well as if hundreds of miles did not intervene between him

and the places named. And so in all departments of modern science, what is required is the knowledge of certain *signs*. From these, scientists deduce accurate conclusions regardless of distance. A few fossils sent to the expert geologist enables him to accurately determine the rock-formation from which they were taken. He can describe it to you as perfectly as if a cleft of it were lying on his table. So also the chemist can determine the constitution of the sun as accurately as if that luminary were not ninety-five million miles from his laboratory. The sun sends certain *signs* over the "infinitude of space," which the

Medical Library and Council-room.—Invalids' Hotel and Surgical Institute.

chemist classifies by passing them through the spectroscope. Only the presence of certain substances could produce these solar signs.

So, also, in medical science,

DISEASE HAS CERTAIN UNMISTAKABLE SIGNS,

or symptoms, and, by reason of this fact, we have been enabled to originate and perfect a system of determining with the greatest accuracy the nature of chronic diseases without seeing and personally examining our patients. In recognizing diseases without a personal examination of the patient, we claim to possess no miraculous powers. We obtain our knowledge of the patient's disease by the practical application of well-established principles of modern science to the practice of medicine.

And it is to the accuracy with which this system has endowed us that we owe our almost world-wide reputation for the skillful treatment of all lingering, or chronic, affections. This system of practice, with the marvelous success which has been attained through it, demonstrates the fact that diseases display certain phenomena, which, being subjected to scientific analysis, furnish abundant and unmistakable data to guide the judgment of the skillful practitioner aright in determining the nature of diseased conditions.

So successful has been this method of treating patients at a distance that there is scarcely a city or a village in the United States that is not represented by one or more cases upon the "Records of Practice" at the Invalids' Hotel and Surgical Institute. In all chronic diseases that are curable by medical treatment, it is only in very rare cases that we cannot do as well for the patient while he or she remains at home, as if here in person to be examined. But we annually treat hundreds of cases requiring surgical operations and careful after-treatment, and in these cases our Invalids' Hotel, or home, is indispensable. Here the patient has the services not only of the most skillful surgeons, but also, what is quite as necessary in the after treatment, of thoroughly trained and skilled nurses.

What should be the essential characteristics of an Invalids' Home?

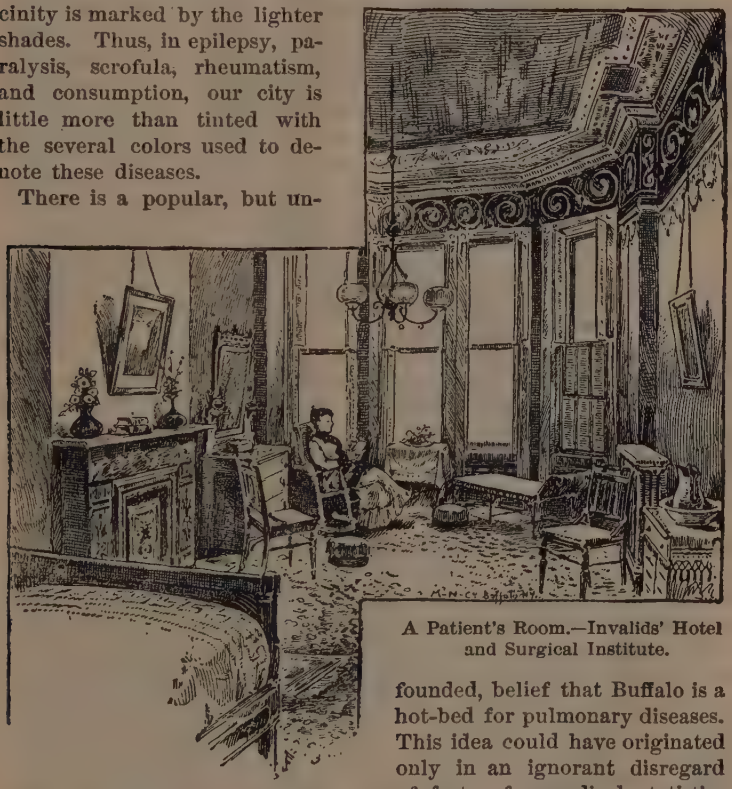
CLIMATE.

Obviously, the most important of these characteristics is *climate.* Climatology, from being a mere speculative theory, has arisen to the deserved rank of a science. The influence of the climate of a country on the national character has long been observed and acknowledged. The languid but passionate temperaments of the South are like its volcanoes, now quiet and silent, anon bursting forth with terrible activity, flooding entire cities with molten fire; or, like its skies, now sunny, cloudless, an hour hence convulsed with lightnings and deluging the earth with passionate rain; or, like its winds, to-day soft, balmy, with healing on their wings, to-night the wind fiends, the destroying simoom, rushing through the land, withering and scorching every flower and blade of herbage on its way. On the other hand, the calm, phlegmatic temperament of the North accords well with her silent mountains, her serener skies, and her less vehement, but chilling winds. The South, too, is the native home of the most violent acute diseases, such as yellow fever and cholera. But, aside from this general climatic influence, there is the yet more restricted one of locality. It has often been observed that certain classes of diseases are most prevalent in certain localities, the prevalence in every instance being due to peculiarities of climate.

EXTREME HEALTHFULNESS OF BUFFALO.

In the published records of the examination for military service in the army, during our late civil war, this fact was clearly and definitely

stated, and maps were prepared and presented showing the comparative prevalence of certain diseases in the several States and districts represented. The maps are prepared by a graduation of color, the lighter shades indicating the localities where the special disease under consideration is least prevalent; and it is a very significant and important fact that in all chronic diseases, not due to occupation or accident, Buffalo and its immediate vicinity is marked by the lighter shades. Thus, in epilepsy, paralysis, scrofula, rheumatism, and consumption, our city is little more than tinted with the several colors used to denote these diseases.



A Patient's Room.—Invalids' Hotel and Surgical Institute.

There is a popular, but unfounded, belief that Buffalo is a hot-bed for pulmonary diseases. This idea could have originated only in an ignorant disregard of facts; for medical statistics prove that in her freedom from this class of diseases she is unrivaled by any city in America, not excepting those on seaboard.

EVIDENCE OF HEALTH STATISTICS.

Compare, if you please, the statistics of Buffalo with those of the great Eastern cities in this respect. In Boston and New York the death-rate from consumption shows a ratio of about 1 to 5 of the whole number of deaths. In Baltimore and Philadelphia the ratio is 1 to 6, while in Buffalo the death rate from consumption is only 1 to 10—a

very remarkable difference in favor of our city. Only last summer a gentleman residing in the eastern part of our State collected and compared the health statistics for 1876 of all the prominent cities in the United States. The result showed that

BUFFALO OUTRANKS ALL IN HEALTHFULNESS.

A great deal of precious breath has been expended in blustering about Buffalo zephyrs, as our delightful lake breezes are sometimes ironically termed. It seems to be a popular belief among our sister cities that old Boreas has chosen Buffalo for his headquarters. When we hear a person dilating upon "Buffalo's terrific winds," we are reminded of one of our lady acquaintances who recently returned from a European tour. She was asked how she enjoyed her sea voyage, and she replied, "Oh, it was delightful, really charming! There is something so grand about the sea!" We were not a little surprised at this enthusiastic outburst, as we had been told by a member of her party that the lady had industriously vomited her way to Hamburg and back again. But the lady's enthusiasm was easily explained. It is fashionable to characterize sea voyages as delightful, charming, etc. Now, we suspect this popular notion about our "trying winds" is traceable to the same source. It has become customary to call Buffalo a "windy place," and so, when the traveler feels a slight lake breeze, he imagines it to be a "terrific gale." Whatever may have originated this notion, certain it is that it is utterly, undeniably false; and, in making this denial, we are not dependent upon observation, but upon the

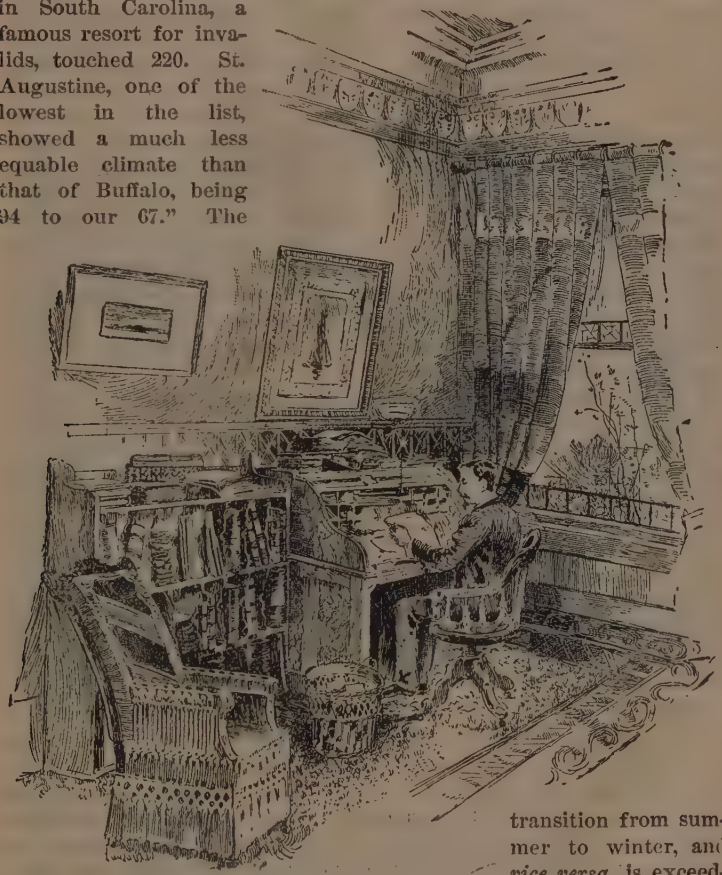
FACTS OF SCIENCE.

The issue of July 18, 1874, of the Buffalo *Commercial Advertiser*, contained a series of tables, furnished by the Signal Service Bureau, showing the velocity of the wind at eleven prominent cities for the year 1873. An examination of the table shows that the total velocity for the year was the *lowest in Buffalo* of any of the lake ports; while Philadelphia and New York showed far higher aggregates of velocity than our city. On this subject, in the issue of August 21st of the same year, the editor pleasantly remarks: "Only the interior and southern seaboard cities, and not many of them, show a lower total velocity of wind than is marked against this city; and as for those places, heaven help their unfortunate inhabitants in the sultry nights of the summer season, when they are gasping in vain for a breath of that pure, cool lake air, which brings refreshing slumbers to the peculiar people of blessed, breezy Buffalo."

EQUABILITY OF CLIMATE.

Then, in regard to *equability of climate*, the great disideratum for invalids in any locality, here again sentiment and science are greatly at variance. An examination of the official records of the Signal Service Bureau, and the statistics of the Smithsonian Institute, showed that out of a list of forty cities on the continent Buffalo ranked highest

for equability of climate. Thus we quote from an editorial of the *Advertiser's* issue of July 18, 1874: "While the aggregate of change for Buffalo stood at 67 for the year, that of Philadelphia reached 204, Washington was 224, Cincinnati 205, St. Louis 171. Winchester, in one of the healthiest parts of Virginia, reached as high as 201. Aiken, in South Carolina, a famous resort for invalids, touched 220. St. Augustine, one of the lowest in the list, showed a much less equable climate than that of Buffalo, being 94 to our 67." The



One of our Physician's Rooms—Bureau of Correspondence.—Invalids' Hotel and Surgical Institute.

transition from summer to winter, and *vice versa*, is exceedingly gradual, and, consequently, Buffalonians are seldom afflicted with those epidemic diseases which generally appear in other localities during the spring and summer months. Thus the thermometric readings of the Signal Service Bureau for 1873, shows that the average temperature for July and August was 74°. For September it was about 64°, which was again reduced by about 10° for October. The monthly average for November was 73°,

and for December 25°, which was also the average for January. Then the readings for February showed an average of 26°, for March 32°, and 43° for April. A more equable and gradual transition from midsummer heat to midwinter cold cannot be shown by any locality on this continent. Seldom does the mercury rise above ninety during our warmest summers, or fall below zero in our most severe winters. In J. Disturnal's work, entitled "The Influence of Climate in North and South America," published by Van Nostrand, in 1867, the climate of Buffalo is thus characterized: "From certain natural causes, no doubt produced by the waters of Lake Erie, the winters are less severe, the summers less hot, the temperature night and day more equable, and the transition from heat to cold less rapid, in Buffalo than in any other locality within the temperate zone of the United States, as will be seen by the following table." The table referred to shows that, "during the summer months, the temperature of Buffalo is from 10 to 20 cooler than that of any other point east, south, or west of the ports on Lake Erie; while the refreshing and invigorating lake breeze is felt night and day." The author further adds that, during the winter months, "the thermometer rarely indicates zero. and the mean temperature for January, 1858, was 20° above."

A careful investigation into the comparative climatology of the several great social and commercial centers, proved *Buffalo to be superior to all others in the climatic requirements for the invalid.* Besides, it has the important advantage of being a central point of traffic and travel between the West and the East.

ADVANTAGES OF LOCATION.

The second important consideration in projecting this home for invalids was *location.* Is has generally been customary to locate institutions of this character in rural districts, removed from the advantages of city life, on the plea of escaping the confusion and excitement so detrimental to recovery. The result is well known. Invalids have regarded them more as pleasure resorts than health resorts, spending the summer months there, but fleeing to their homes at the fall of the first snow-flake. The good that was done in the summer is undone by carelessness and exposure in the winter. A location that would combine both city advantages and rural pleasures, seemed to us, upon reflection, to be the desirable one. Fortunately, Buffalo afforded the happy mean. Our extensive parks, our unsurpassed facilities for yachting, fishing, and all aquatic sports, our many sylvan lake and river retreats, our world-famed Niagara, — certainly a more desirable selection of rural scenes and pleasures cannot be found in another locality in America.

A GENUINE HOME.

In erecting the Invalids' Hotel and Surgical Institute, our paramount design was to make it a genuine home — *not a hospital* — a home where the child of fortune would miss none of the comforts of her palatial

home, while the poor man would find not only health but his pleasures multiplied a thousand fold.

OUR TERMS MODERATE.

The wholesale merchant's prices are far less than those of the retail dealer. He can afford it, his sales are so much larger. Now, it is on precisely the same principle that we are able to make the rates at the Invalids' Hotel and Surgical Institute comparatively low. If we had only a limited number of patients, we should be obliged to make the charges commensurate with our expenses; but our practice having

Prescription Department—Invalids' Hotel and Surgical Institute.

become very extensive, and the income being correspondingly large, we are enabled to make the rates at the Invalids' Hotel and Surgical Institute so moderate that all who desire can avail themselves of its medical, surgical, and hygienic advantages.

FACILITIES OF TREATMENT.

Of the many advantages afforded by the Invalids' Hotel and Surgical Institute, in treating disease, we can make only brief mention of a few of the more prominent.

DIVISION OF LABOR.

In the examination and treatment of patients, our practice is divided into specialties. Each member of the Faculty, although educated to practice in *all* departments of medicine and surgery, is here assigned

to a special department only, to which he devotes his entire time, study, and attention.

ADVANTAGES OF SPECIALTIES.

The division-of-labor system proves as effectual in the exercise of the professions as in manufactures. In the legal profession this has long been a recognized fact. One lawyer devotes his attention specially to criminal law, and distinguishes himself in that department. Another develops a special faculty for unraveling knotty questions in matters of real estate, and, if a title is to be proved, or a deed annulled, he is the preferred counselor. In a certain manner, too, this has long been practiced by the medical profession. Thus some physicians (and we may add physicians who call themselves "regular," and are specially caustic in their denunciation of "advertising doctors") are accustomed to distribute cards among their patrons, certifying that they give special attention to diseases of women and children. In this institution each physician and surgeon is assigned a special department of medicine or surgery. By constant study and attention to his department, each has become a skillful specialist, readily detecting every phase and complication of the diseases referred to him. Not only is superior skill thus attained, but also *rapidity* and *accuracy* in diagnosis.

Thoroughness and efficiency in any branch of learning can be secured only by devoting to it especial study and attention. When the faculty of a university is to be chosen, how are its members selected? For instance, how is the chair of astronomy filled? Do they choose the man who is celebrated for his general scholastic attainments, or do they not rather confer it upon one who is known to have devoted special attention and study to the science of astronomy, and is, therefore, especially qualified to explain its theories and principles? Thus all the several chairs are filled by gentlemen whose general scholarship not only is known to be of the highest standard, but who devote special attention to the departments assigned them, thus becoming proficient specialists therein. The same system of specialties is observed in the departments of a medical college. The professor who would assume to lecture in all the departments with equal ease and proficiency would be severely ridiculed by his colleagues; and yet it is just as absurd to suppose that the general practitioner can keep himself informed of the many new methods of treatment that are being constantly devised and adopted in the several departments of medicine and surgery.

PROGRESS IN MEDICINE.

In no other science is more rapid and real progress being made at the present time than in that of medicine. Even the specialist must be studious and earnest in his work to keep himself well and accurately informed of the progress made in his department.

Thus it so often happens that the general practitioner pursues old methods of treatment which science has long since replaced with others, acknowledged to be superior. The specialist, on the contrary, by confining his studies and researches to one class of diseases only, is enabled to inform himself thoroughly and accurately on all the improvements made in the methods and means of practice in his special department.

The difference between the practice of specialists and that of general practitioners is aptly illustrated by the difference between the old-fashioned district school, in which the school-master taught all the branches, from a-b-abs to the solution of unknown quantities and the charmed mysteries of philosophy, and the modern seminary, with its efficient corps of teachers, each devoting his or her whole attention to the study and teaching of one special department of learning.

We attribute the success which has attended the practice at the Invalids' Hotel and Surgical Institute, in a great measure, to a wise adoption of this system of specialties.

ADVANTAGES OFFERED TO INVALIDS.

Obviously, the most important of these advantages is *facility of treatment.* Of the thousands whom we have cured of chronic diseases, we have probably not seen one in five hundred, having accomplished the desired result through remedies sent either by mail or express, and advice given by letter. Yet in some obstinate forms of disease, we can here bring to bear remedial means not to be found or applied elsewhere.

That thousands of cases of chronic disease, pronounced incurable, have, by our rational and scientific treatment, been restored to perfect health, is conclusively proved by the records of practice at the Invalids' Hotel and Surgical Institute. Here, in obstinate cases, are brought to bear all the most scientific remedial appliances and methods of treatment.

A system of mechanical movements, passive exercises, manipulations, kneadings, and rubbings, administered by a large variety of ingeniously-contrived machinery, driven by steam-power, has been found especially efficacious and valuable, as an aid to medical and surgical treatment, in the cure of obstinate cases of nervous and sick headache, constipation, paralysis, or palsy, stiffened joints, crooked and withered limbs, spinal curvature, tumors, diseases of women, especially displacements of the uterus, or womb, such as prolapsus, retroversion and anteversion, chronic inflammation, enlargement and ulceration of the uterus, and kindred affections; also in nervous debility, sleeplessless, and most chronic diseases. Mechanical power, or force, is by these machines transmitted to the system, in which it is transformed into vital energy and physical power or strength. This mechanical, passive exercise, or movement-cure treatment, differs

widely from, and should not be confounded with, "Swedish movements," to which it is far superior in efficacy. Coupled with our improved and wonderful system of "Vitalization" treatment, it affords the most perfect system of physical training and development ever devised For the restoration of power to wasted, undeveloped, or weakened organs or parts, or for their enlargement, this combined move-

A glimpse of some of the rooms for the application of Electricity, Mechanical Massage, "Vitalization" treatment, and other agencies prescribed by our Staff; furnishing a perfect system of physical and remedial training, carefully adapted to the wants of the most delicate and feeble, as well as to those of greater strength.

ment and "Vitalization" treatment is unequaled. It can be applied to strengthen or enlarge any organ or part. We also employ both Dynamic and Static electricity, "Franklinism" and Electrolysis, and chemical, Turkish and other baths, in all cases in which they are indicated. Inhalations, administered by means of the most approved apparatus, are employed with advantage in many obstinate lung, bronchial, and throat affections. We have no

hobby or one-idea system of treatment, no good remedial means being overlooked or neglected.

A FAIR AND BUSINESS-LIKE OFFER TO THE AFFLICTED.

Reader, are you accustomed to think and act for yourself? Do you consult your own reason and best inserests? If so, then do not heed the counsel of skeptical and prejudiced friends, or jealous physicians, but listen to what we have to say?

You perhaps know nothing of us, or our systems of treatment, or of the business methods we employ. You may *imagine*, but you *know nothing*, perhaps, of our facilities and advantages for performing cures in cases beyond the reach or aid of the general practitioner. Knowing nothing, then, of all these advantages, you still know as much as the would-be friend or physician who never loses an opportunity to traduce and misrepresent us, and prejudice the afflicted against us.

Now to the point—are you listening? Then permit us to state that we have the largest, the best, and the finest buildings of any like Association, company, or firm in this country. We employ *more* and *better* Medical and Surgical Specialists in our Invalids' Hotel and Surgical institute than any similar Association, company, or individual, and actually have more capital invested. We have a thoroughly qualified and eminent Specialist for every disease that we treat. We treat more cases, *and absolutely cure more patients* than any similar institution in America. In addition to those we treat medically, we perform all the most difficult surgical operations known to the most eminent Surgeons, and so frequently do many of these operations occur with us that some of our Specialists have become the most expert and skillful Surgeons on this continent.

We wish to add further that we are responsible to *you* for what we represent; we therefore ask you to come and visit our institutions; and, if you find on investigation that we have misstated or misrepresented *in any particular* our institutions, our advantages, or our success in curing Chronic Diseases, *we will gladly and promptly refund to you all the expenses of your trip.* We court honest, sincere investigation, and are glad and anxious to show interested people what we can do and are daily doing for suffering humanity. Can a proposition be plainer? Can an offer be more fair and business-like? If, therefore, you are afflicted, and are seeking relief, come where genuine ability is a ruling feature, where *success* is our watchword and the alleviation of human suffering our mission.

Whether arriving in our city by day or night, *come directly to the Invalids' Hotel and Surgical Institute, 663 Main Street*, where you will be hospitably received and well cared for.

Address all correspondence to

WORLD'S DISPENSARY MEDICAL ASSOCIATION,
663 Main Street, BUFFALO, N. Y.

SUCCESSFUL TREATMENT

OF

CHRONIC OR LINGERING DISEASES.

For many years the founder of the Invalids' Hotel and Surgical Institute and World's Dispensary has devoted himself very closely to the investigation and treatment of chronic diseases. Some few specifics have, during this time, been developed for certain forms of chronic ailments, and given to the public, but they have not been lauded as "cure-alls," or panaceas, but only recommended as remedies for certain well-defined and easily recognized forms of disease. These medicines are sold through druggists very largely, and have earned great celebrity for their many cures. So far from claiming that these proprietary medicines will cure all diseases, their manufacturers advise the afflicted that, in many complicated and delicate chronic affections, they are not sufficient to meet the wants of the case. These must have special consideration and treatment by a competent physician and surgeon, the medicines and other remedial means required being selected and prepared with reference to each particular case.

In order to be able to offer those afflicted with chronic ailments the most skillful medical and surgical services, Dr. Pierce, many years ago, associated with himself several eminent physicians and surgeons, as the Faculty of the old and renowned World's Dispensary, the consulting Department of which is now merged with the Invalids' Hotel and Surgical Institute.

Type-writer.

DIVISION OF LABOR.

In the organization of the medical and surgical staff of the Invalids' Hotel and Surgical Institute, several years ago, we assigned to one physician the examination and treatment of diseases of the nervous system; to another, surgical operations and the treatment of surgical diseases; a third had charge of catarrhal and pulmonary diseases and affections of the heart; a fourth attended to diseases peculiar to women; a fifth, to diseases of the eye and ear; a sixth, to diseases of the

digestive organs; a seventh, to special surgical cases; to another we entrusted diseases of the urogenital organs; and to others, various other specialties. Now that our practice has become so very extensive as to require for its conduct a greatly increased number of physicians and surgeons, we have been obliged to detail to several of these divisions or specialties in practice, two, three, and even four physicians and surgeons. Thus four physicians and surgeons devote their undivided attention to the examination and treatment of diseases of the urinary and generative organs of men. Three physicians give their sole attention to diseases peculiar to women and three to those of the nasal organs, throat and chest, embracing all chronic diseases of

Faculty of Invalids' Hotel and Surgical Institute in Session.—Council-room.

the respiratory organs. Thus we have a full council of three and four physicians in these several specialties. In several other divisions we have two specialists. No case is slighted either in the examination or in the treatment. All doubtful, obscure or difficult cases are submitted to a council composed of several physicians and surgeons. Skilled pharmaceutists are employed to compound the medicines prescribed. For the purpose of enabling us to conduct our extensive correspondence (for we have an extensive practice in every part of the United States and Canada as well as in Great Britain, from our London branch), stenographers are employed, to whom replies are dictated and

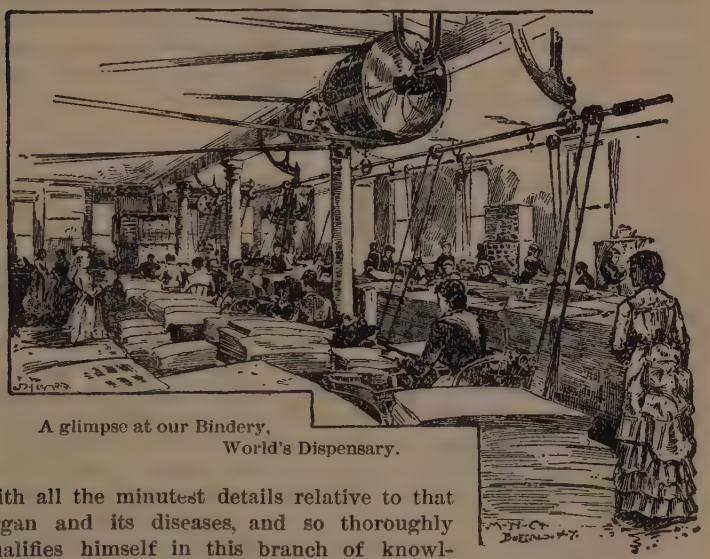
by them taken down in short-hand. Afterwards the letters are written out in full, generally on a type-writing machine, which prints them in a plain, legible style. These machines are operated as rapidly as a person can think of the letters which compose a word, each operator thus accomplishing the work of several copyists. This system, by which we are enabled to correspond with our patients as rapidly as we can talk, has been rendered necessary by the growth of our business, which has attained immense proportions, giving rise to so large a correspondence that a dozen physicians cannot possibly conduct it all and give each patient's case careful attention, without the employment of short-hand writers and all other facilities which modern invention has given us. By the adoption of these various means, we are enabled to fully meet the demands of the afflicted, and give every case the most careful attention.

As many persons, particularly young ladies and gentlemen, having catarrh or almost any other chronic disease, especially if of the uro-genital organs, are very sensitive and fearful that somebody will know that they are afflicted and employing medical treatment, precautions are taken that none who consult us may incur the least risk of exposure. Although none but the most honorable and trustworthy gentlemen are employed as assistants, yet as a *guarantee* of perfect security to our patients, that every communication, whether made in person or by letter, will be treated as *sacredly confidential*, each professional associate, clerk, or assistant, is required to take a solemn oath of secrecy. Great care is also taken to send all letters and medicines carefully sealed in plain envelopes and packages, so that no one can even *suspect* the contents or by whom they are sent.

ADVANTAGES OF SPECIALTIES.

By thorough organization and a perfect system of subdividing the practice of medicine and surgery in this institution, every invalid consulting us is treated by a specialist — one who devotes his undivided attention to the particular class of diseases to which his or her case belongs. The advantage of this arrangement must be obvious. Medical science offers a vast field for investigation, and no physician can, within the limit of a single life-time, achieve the highest degree of success in the treatment of *every* malady incident to humanity. A distinguished professor in the medical department of one of our universities, in an address to the graduating class, recently said: "Some professional men seem to be ashamed unless they have the character of universal knowledge. He who falls into the error of studying everything will be certain to know nothing well. Every man must have a good foundation. He must, in the first place, be a good general practitioner. But the field has become too large to be cultivated in its entirety by one individual; hence the advantage of cultivating special studies in large towns, which admit of the subdivision of professional pursuits. It is no longer possible to know everything;

something must be wisely left unknown. Indeed, a physician, if he would know anything well, must be content to be profoundly ignorant of many things. He must select something for special study, and pursue it with devotion and diligence. This course will lead to success, while the attempt to do everything eventuates unavoidably in failure. Let there be single hands for special duties." Our institution is the only one in this country in which these common-sense-ideas are *thoroughly* carried out. The diversified tastes and talents of physicians cause each to excel in treating some one class of diseases, to which he devotes more attention and study than to others. One medical student manifests great interest in the anatomy, physiology, pathology, and treatment of diseases of the eye. He becomes thoroughly familiar



A glimpse at our Bindery,
World's Dispensary.

with all the minutest details relative to that organ and its diseases, and so thoroughly qualifies himself in this branch of knowledge that he is able to cure an inflammation or other affection of the eye in a very short time. Another student is more interested in some other class of diseases, for the study of which he has a liking, and neglects to inform himself in the ophthalmic branch of medical and surgical science. If, after engaging in the practice of his chosen profession, he is consulted by persons suffering from diseases of the eye, he tortures them with unnecessary and ofttimes injurious applications, clumsily and carelessly made, and, as the result of such unskillful treatment, the inestimable blessing of sight is many times sacrificed.

The great majority of physicians allow acute maladies, diseases of children, and the practice of midwifery, to engross most of their time and attention. They manifest an absorbing interest in everything that

relates to these subjects, and devote little or no time to acquiring an intimate knowledge of the great variety of chronic maladies which afflict mankind. They acquire skill and reputation in their favorite line of practice, but are annoyed if consulted by one suffering from some obscure chronic affection, usually turn the invalid off with a very superficial examination, and, perhaps, only prescribe some placebo,* apparently indifferent as to the result, but really desiring thus to conceal their lack of familiarity with such diseases. The specialist, the treatment of chronic diseases being his vocation, is equally annoyed if consulted by those suffering from acute diseases, but does not pursue the inconsistent course of assuming to treat them. He refers them to those of his medical brethren whose daily dealings with such cases make them, in his way of thinking, more competent than himself to render valuable service to such sufferers. He recognizes the fact that no man is likely to succeed in any line of study or business for which he possesses no talent or relish, nor does he believe in being a "jack-at-all-trades and master of none."

ADVERTISING.

Having thoroughly qualified himself for the practice of some particular branch of the healing art, the specialist sees no impropriety in acquainting the public with his ability to relieve certain forms of suffering. He believes that medical men should possess equal rights with other business men, and that any code of medical ethics which would deprive him of any of the sacred rights guaranteed to all by the liberal laws of the country, is professional *tyranny*, and merits only his contemptuous disregard. Nor does he display any false modesty in the *manner* of making known his skill. He maintains that he has an undoubted right to place his claims to patronage before the public by every fair and honorable means. He recognizes the display of goods in the merchant's show-windows as no less an advertisement and in no better taste than the publication of a card in the newspaper. So, likewise, he regards the various devices by which the extremely *ethical* physician seeks to place himself conspicuously before the public, as but so many ways of advertising, and as not more modest than the publication of cures actually performed, or than his announcement through the public press of his professional sources for treating certain maladies.

The physician who expresses a "holy horror" of the "*advertising doctor*," liberally bestowing upon him the epithet of "quack," announces *himself* a graduate, talks learnedly and gives notice to the public in *some* way that he is ready to serve them. He endeavors to impress upon the mind of the patient and family his skill, frequently exaggerates as to the extent of his practice, rides furiously about when he has no professional calls, keeps up business appearances by driving

*A *placebo* is a harmless and valueless prescription, which physicians sometimes make merely to gratify the patient, as a dose of "bread pills," etc.

several horses, or joins influential societies. He may make a great display in style, manner, dress, pretensions, writing for the newspapers, exhibiting literary pedantry, referring to the superior facilities afforded by some particular school or society to which he belongs; or by editing and publishing a medical journal, ostensibly for the advancement of medical science, but practically to display titles or professorships, to publish reports which flatteringly allude to cases he has treated, the number of capital surgical operations he has performed, or the distinguished families he is treating. All these are but *modes of advertising* professional wares; in short, are artful, though not refined, tricks, resorted to for private announcement. We say to all such adventurers in modern advertising diplomacy, that these indirect, clandestine methods are not half so candid and honorable as a direct public statement of the intentions and proposals of a medical practitioner, who thereby incurs an individual responsibility before the law and his fellow-men.

No good reason has ever been assigned why any well educated physician, trained in the school of experience until he becomes proficient in medical skill, may not publish facts and evidence to disclose it, especially when these are abundant and conclusive. The following extracts from an able article by the Rev. THOMAS K. BEECHER embodies a sound view of the subject of medical advertising. He says:

* * "I am glad that the doctor cured him; I am glad that the doctor put it in the paper that he could cure him. And if any doctor is certain that he can cure such diseases and don't put it in the paper, I am sorry. What a pity it would have been had this doctor come to town with his wealth of science and experience and gone away leaving him uncured! What a pity it would have been if he had been so prejudiced against advertising as to read the responsible certificate of the doctor and give him the go-by as a quack! What are newspapers for, if not to circulate information? What more valuable information can a newspaper give than to tell a sick man where he can be cured? If a man has devoted his life and labor to the study of a special class of diseases, the necessity of his saying so becomes all the more pressing. His *duty* to advertise becomes imperious.

"When I was in England, I found on all the dead walls of London, placards, declaring that Dean Stanley, Chaplain to the Prince of Wales, would preach at such a place; that his grace the Archbishop (I think) of Canterbury would preach at another time and place; again, that an Oxford professor would preach. In short, religious notices were sprinkled in among the theater bills, and the highest church dignitaries were advertised side by side with actors, singers, and clowns. Of course, I was shocked by it, but in a moment I bethought me—if it be all right and dignified to hire a sexton to ring a bell when the minister is going to preach, it is all the same to silence the bell and hire a bill-sticker to tell the same news, the essential thing being to tell the truth every time. The remedy for the lying advertisements is for honest men to tell the truth. 'When iniquity cometh in like a flood, then the spirit of the Lord lifts up the standard.' A really able man, whatever be his gifts, makes a great mistake if he fail to use those gifts through want of advertising."

If a physician possesses knowledge that enables him to remedy diseases heretofore regarded as incurable, what virtue or modesty is there to "hide his light under a bushel"? In this free country the people think and act for themselves, and hence all have a deep concern in the subject of health. The strong popular prejudice against the doctors who advertise is due to the fact, that by this method so many ignorant charlatans are enabled to palm off their worthless services upon the uneducated and credulous; but the practice of such imposition should not cause a presumption against the public announcement of real skill, for the baser metal bears conclusive evidence that the pure also exists.

Every step in scientific investigation, every proposition which relates to the interest and happiness of man, every statement and appeal involving a valuable consideration, must be submitted to the scrutiny and judgment of individual reason; for every person has the right to form his own conclusions, and justify them by experience. Those claims which are only supported by empty assertion are very doubtful. Misty theories vanish before the sun of truth. He who renders professional services cannot be successful, unless he be sustained by real merit.

TREATING PATIENTS WHO RESIDE AT A DISTANCE.

We can treat many chronic diseases as successfully without as with a personal consultation, as our vast experience enables us to correctly determine the malady from which the patient is suffering, from a history of the symptoms, and answers to questions furnished. We have never seen one person in five hundred whom we have cured.

Some may suppose that a physician cannot obtain, through correspondence, a sufficiently accurate idea of the condition of a patient to enable him to treat the case successfully; but a large experience in this practice has proved the contrary to be true, for some of the most remarkable cures have been effected through the medium of correspondence. In most long-continued cases, the patient has thought over his symptoms hundreds of times. The location of every pain, whether acute or mild, constant or occasional, and the circumstances under which it occurs, have been carefully noted. He has observed whether he had a rush of blood to the head, was feverish or chilly, whether troubled with cold hands and feet, whether full of blood, or pale and bloodless; and he states these matters with accuracy and common sense when writing to us, for he has a very good, if not a professional, knowledge of the relative importance of these symptoms. So in regard to digestion, he states what kinds of food agree with him, or whether he is troubled with excessive acidity or a flatulent condition of the stomach. He also informs us whether his tongue is coated and bilious, or clean and healthy, and gives many other particulars too lengthy to enumer-

ate, by which we are enabled to gain a perfect understanding of the case. If his description be not sufficiently complete to enable us to obtain an unmistakable understanding of the case, he is

Binocular Microscope used at the Invalids' Hotel and Surgical Institute.

requested to answer a list of important questions which are sent him. The people are far more intelligent in these matters than physicians are generally willing to admit. A patient is often confused while being personally examined by a physician, and gives imperfect or incorrect answers. After he has left the presence of the physician, he finds that he has failed to enumerate many of the most important symptoms. In consulting by letter, the patient is not

embarrassed, he states the exact symptoms, and carefully reads over the letter to see if it is a complete and accurate description of his sufferings. In this way he conveys a much better idea of the case than if present in person, and subjected to the most thorough questioning and cross-examination. The timid lady and nervous young man write just as they feel; and one important reason why we have had such superior success in treating intricate and delicate diseases, is because we have obtained such true and natural statements of the cases from these letters, many of which are perfect pen-pictures of disease. As bank-tellers and cashiers, who daily handle large quantities of currency, can unmistakably detect spurious money by a glance at the engraving or a touch of the paper, so the experienced physician, by his great familiarity with disease, becomes equally skilled in detecting the nature and extent of a chronic malady from a written description of its symptoms.

URINARY SIGNS.

A careful microscopical examination and chemical analysis of the urine is a valuable aid in determining the nature of many chronic diseases, particularly those of the nervous system, blood, liver, kidneys, bladder, prostate gland and generative organs. This important fact is not overlooked at the Invalids' Hotel and Surgical Institute, where an experienced chemist is employed to make such examinations and report the result to the attending physicians. Medical authors, professors, and practitioners of all schools, admit and even insist upon the importance of such examinations in diagnosticating diseases. Many practitioners neglect to take advantage of this invaluable aid, while others fear that if they attach much importance to such examinations they will be ranked with "uroscopian" or "water" doctors, a class of enthusiasts who claim to be able to correctly diagnosticate every disease by an examination of the urine. Persons consulting us and wishing to avail themselves of the advantages afforded by these examinations can send small vials of their urine by express. The vials should be carefully packed in saw-dust or paper and enclosed in a light wooden box. All charges for transportation must be prepaid, and a complete history of the case, including the age and sex of the patient, must accompany each package, or it will receive no attention. This saves valuable time by directing the examination into the channels indicated, and thus avoiding a lengthy series of experiments. As we are daily receiving numerous vials of urine, every sample should, to prevent confusion, be labeled with the patient's name.

There is a natural, definite proportion of the component elements of every solid and fluid of the human body. These proportions have been reduced to definite standards, a deviation from which bears evidence of disease. Thus, there being a fixed standard in a normal proportion of the elements of the blood, any deviation from

it as in anæmia, leucocythæmia, etc., indicates disease. So also the standard proportion of the urinary elements being known, any considerable change, either in quantity or quality of its parts, bears unmistakable evidence of disease. The invention of the microscope has provided increased facilities for detecting diseases by examination of the urine. By the aid of this wonderful instrument, we are enabled to discover with absolute certainty the various urinary deposits characteristic of different maladies; thus in Fig. 1, A represents the *residue* of normal human urine, as seen under the microscope. In division B is represented *oxalate of urea.* An excess of this element indicates indigestion, and is also characteristic of a plethoric, or full habit of the body. Nitrate of urea is represented in division C. A deficiency of urea in the renal secretion is a certain indication of anæmia. The average quantity present during health is 21.57 parts in 1,000. The microscopic examination of the urine, notwithstanding the distaste, and even contempt, which many physicians manifest for such investigations, is pursued at the Invalids' Hotel and Surgical Institute, with inestimable benefit to our patients. It has revealed the existence of many serious affections, which, with all our other modes of investigation, we have been unable to detect. It has also thrown light upon many obscure chronic diseases.

Fig. 1.

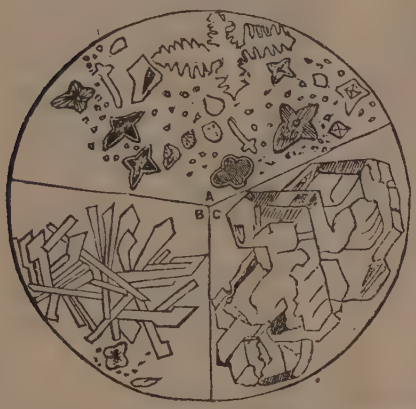
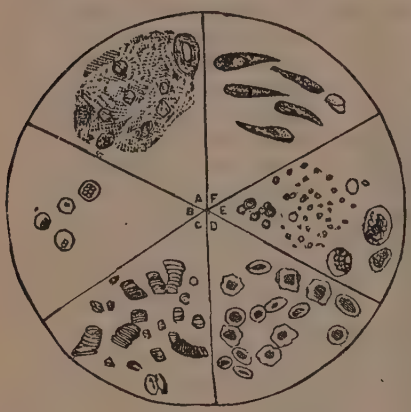


Fig. 2.

We have already spoken of the marked changes effected in the urine by a derangement of the digestive functions. It is a matter of surprise that physicians generally pay so little attention to the urine when dyspepsia is suspected, since all admit that an examination of that excretion furnishes unmistakable evidence of the nature and complications of the disease. In this way we are many times enabled to determine whether the indigestion is caused by

congestion or functional disease of the liver or kidneys or by nervous debility. And when such cases are treated in accordance with the indications furnished, increased success attends our practice. In Fig. 2 (divisions A and B), highly magnified urinary deposits, which indicate different degrees of impairment of the digestive functions are represented. The crystals seen in division C indicate the same debility accompanied with derangement of the mental faculties. Those in divisions D and E indicate still more aggravated forms of the same disorder.

Fig. 3.



INVALUABLE AIDS IN DETERMINING DISEASES OF THE KIDNEYS AND BLADDER.

The various forms of gravel, Bright's disease of the kidneys, hæmaturia, inflammation of the kidneys and bladder, diabetes, and other functional and organic diseases of the urinary organs effect characteristic changes in the urine, thus enabling us to distinguish them with certainty and exactness. Some of the various microscopical appearances of the urinary deposits in diseases of the kidneys and bladder, are represented in Fig. 3. In division A is represented pus and mucus, the presence of which indicates suppuration of the kidneys (Bright's disease). In B pus globules are alone represented. In the division marked C are shown blood corpuscles as they are arranged in blood drawn from a vein or artery. D represents the same separated, as they always are when present in the urine. In E highly magnified oil globules are represented. If present in the urine, they indicate disease of the kidneys. In the division marked F are represented epithelial cells, the presence of which in large numbers is indicative of diseases of the mucous lining of the urinary organs.

Fig. 4.

Fig. 4 represents the microscopic appearance of phosphates in the urine. These are present in great quantity in cases of nervous debility and kindred affections. By attaching the *camera lucida* to the microscope we can throw an image of these urinary deposits upon paper. By the art of the engraver this may be faithfully traced, and thus we are enabled to produce an accurate representation of them. Some of the beautiful crystalline deposits shown in Fig. 4 represent less than a millionth part of a grain, yet their forms are delineated with geometrical precision. In division A are represented urinary crystals, which indicate an irritable state of the nervous system. The crystals shown in division B are of the same character as the preceding, but bear evidence of greater mental debility. In division C are represented crystalline deposits indicating malassimilation of food and a tendency to hypochondria. Division D contains a representation of the mixed phosphates. They are indicative of severe diseases attended with hypochondria and general nervous prostration.

Fig. 5.

Fig. 5 represents the microscopic appearance of mixed urinary deposits. In division A are represented the mixed urates as they appear during idiopathic fevers, as intermittent, remittent, etc. When appearing as seen in division B, a less violent affection of the same character is indicated. Division C represents urate of ammonia, occasionally observed when there is a tendency towards albuminuria, or dropsy, resulting from granular degeneration of the kidneys, as in incipient Bright's disease. In division D is represented urate of soda, which is present in the urine of persons suffering from gout. The crystals shown in division E consist of the same salt.

Fig. 6.

In division A, Fig. 6, is represented purulent matter as it appears in

the urine. The absorption of pus from abscesses in different parts of the system is frequently followed by the appearance of pus globules in the urine. When fat globules, represented in division B, are found in the urine, they indicate fatty degeneration. In division C are representations of the cells found in the urine of persons suffering from consumption or other scrofulous diseases.

Fig. 7.

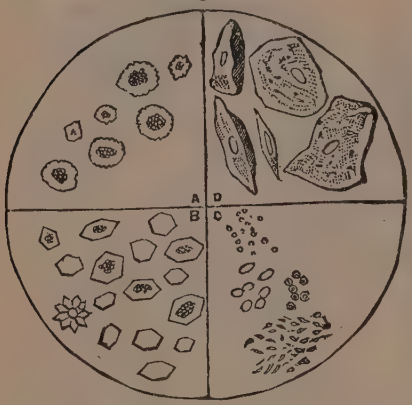


Fig. 7 represents the different forms of cystine found in the urine of scrofulous and consumptive persons. In division A it is represented as seen in an amorphous (non-crystallized) form, and in B it appears in crystals. In division C is a representation of the deposits seen in the urine of those who are greatly debilitated. In division D are seen epithelial cells mixed with mucus.

In division A, Fig. 8, are represented the caudated cells characteristic of hard cancer. The cells represented in division B are concentric, and characteristic of the soft varieties of cancer.

Fig. 9 represents the appearance of spermatozoa as seen in the urine. When present, they afford indisputable evidence of the escape of semen in the renal excretions.

Fig. 8.

We might add many other illustrations of urinary deposits and state their several indications, but a sufficient number have been introduced to show the importance and practical value of microscopic examinations of the urine in distinguishing obscure diseases.

Although the microscope is of inestimable value, it does not entirely supersede other valuable instruments and chemical re-agents, in determining the constitutional changes by the renal excretion. By the urinometer we determine the specific gravity of the urine; by the use of litmus its acid or alkaline reaction is ascertained; while various chemicals, when added to it, produce certain specific changes, according to the morbid alterations which it has

undergone by reason of disease. By the application of heat, or the addition of a few drops of nitric acid, the albumen, which is invariably present in Bright's disease of the kidneys, is coagulated. By the employment of other re-agents we may determine the presence of sugar—a characteristic of diabetic urine. And thus we might enumerate almost innumerable chemical tests by which the several changed conditions of the urine, *characteristic* of different diseases, may be ascertained with *absolute certainty*.

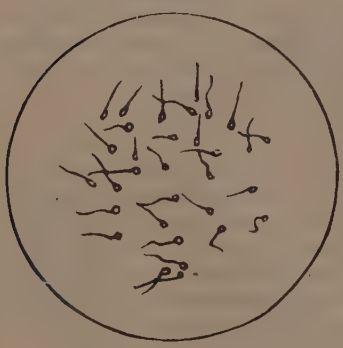
THE MOST EMINENT MEDICAL AUTHORITIES ENDORSE IT.

Dr. Eberle, a distinguished allopathic author, thus writes: "Whatever may be the disease, the urine seldom fails in furnishing us with a clue to the principles upon which it is to be treated."

Dr. Braithwaite also says: "We can arrive at a more accurate knowledge respecting the nature of diseases from examining the urine than from any other symptom."

Golding Bird, whose writings are regarded as sound and practical by the most learned of the medical profession, says: "The examination of the urine in disease is now regarded as one of the most important aids in diagnosis, and which it would be injurious alike to the welfare of the patient and the credit of the practitioner to avoid."

Fig. 9.



The eminent Dr. F. Simon writes as follows: "From the physical and chemical state of the urine, the attentive and observing physician may obtain a great quantity of information for ascertaining and establishing a diagnosis. More than all other signs, the correct examination of the sediment is of importance to the physician. * * * For the medical man it is the compass which guides him in the unlimited chaos of disease and its treatment; for the patient it is the thermometer of his condition, the premonitory indication of the decrease or aggravation of his malady; and for the healthy man it is the regulator of his diet and his life. Every one is aware of the variations of the barometer, and we know that the fluctuations of the column of mercury are closely associated with the variable conditions of the atmosphere; so, to the practical observer, variations of the urine, as well as the elements composing it, point out with certainty the changes in health, and the condition of the organs."

While we recognize the importance of examining the urine as an aid in distinguishing diseases, and have made this old German method of diagnosis a special study, yet we do not claim that *all* diseases can

be unmistakably distinguished by such examinations *alone*. We take a conservative position and have no confidence in that class of ignorant fanatics whose pet hobby is "uroscopy."

From every person who solicits our professional services, we require explicit answers to numerous important questions, that we may know the age, sex, vocation, etc., as well as the prominent symptoms manifested.

CONSULTATIONS BY LETTER.

Formerly, we published in this book a very extensive list of questions to be answered by those consulting us, but a large experience has convinced us that beyond requiring answers to a few leading questions, which we still retain, it is better to let the patient describe the malady in his or her own way and language. After receiving and considering such a history, if we do not fully understand the patient's malady, we will ask such further questions as may be necessary. The patient should, however, in addition to writing name, post-office, county, and state, *plainly*, state the name of the town containing the nearest express office. Next give age, sex, whether married or single, complexion, height, present and former weight, if known, and occupation. State also if you have been a hard worker, and whether it is necessary for you to labor hard now, how long you have been out of health, and from what particular symptoms you suffer most. Follow this with a history of your case in your own language. If you find in this pamphlet an accurate description of your disease, state the page and paragraph where it occurs.

FREE CONSULTATION.

We now make no charge for consultation by letter, but, instead of the one dollar formerly charged by us as a consultation fee, as we are desirous of making our facilities for treatment known to invalids far and near, we request that all persons writing to us for advice send us the names of all those within the circle of their acquaintance that are in any way in need of medical or surgical treatment for chronic diseases. If convenient, send the list on a separate piece of paper.

CHARGES MUST BE PREPAID.

Should you send a vial of urine for analysis, a very small one will do, and *all express charges on it must be prepaid.* All liquids are excluded from the mails, when discovered, and yet we have received hundreds of samples through the mails safely when put in homœopathic or other *very small* vials, well corked and carefully packed in a light tin can or *wooden* box, or in a light pine stick bored out hollow, the vial being carefully packed in sufficient sawdust or blotting paper to absorb all liquid should the vial get broken. Letter postage, that is, two cents for each one ounce or fraction thereof, must be paid upon these sealed packages. Send the urine that is first passed after rising in the morning.

RELIABLE MEDICINES.

Next in importance to a correct understanding of the patient's disease, is the possession of reliable remedies for its treatment. Many of the medicines employed by physicians engaged in general practice are prepared from old drugs that have lost all their medicinal virtues, and hence are utterly useless and ineffectual. Many vegetable extracts are inert, because the plants from which they are produced were not gathered at the proper time. To give the reader an idea of the great care which we exercise in the selection and preparation of our medicines, he is requested to read under the head of "The Preparation of Medicines," in "The People's Common Sense Medical Adviser."

OUR TERMS FOR TREATMENT

require the payment of monthly fees, in advance, which entitle the patient to medicines specially prepared for and adapted to his or her particular case, and to all necessary attention and advice. Our fees for treatment are moderate, varying according to the nature and requirements of each particular case, and will be made known at the time of consultation.

WHY OUR FEES ARE REQUIRED IN ADVANCE.

We receive applications from strangers residing in all parts of America, and even in foreign countries, and it is not reasonable to suppose that credit could be dispensed so indiscriminately. It would not be a correct business transaction for a merchant to send a barrel of sugar or a roll of cloth to a stranger living hundreds of miles away, to be paid for when used. Our knowledge and medicines constitute our capital in business, and an order upon that capital should be accompanied with an equivalent. Some applicants refer us to their neighbors for a testimonial of their integrity. We cannot spare the time or employ assistants to make such inquiries for the sake of trusting any one. Should credit be thus indiscriminately given, there would necessarily be losses, and, to compensate for these, and the extra expense incurred by the employment of assistants, our fees would have to be much larger, thereby imposing the burden upon those who *do* pay. Instead of following this method of procedure, we place professional services within the reach of all, so that a greater number may be benefited. Many invalids say that they have paid large sums of money to medical men for treatment without obtaining relief. Unfortunately our land is cursed with quacks and unprincipled practitioners, who seek no one's good but their own, and it is a defect in our law that it permits such swindlers to go unpunished. Not so reprehensible is the family physician who fails, because his limited and varied practice does not permit him to become proficient in treating chronic diseases.

The following beautiful sentiment of Hood truthfully expresses the sacredness of the physician's trust:

"Above all price of wealth
The body's jewel. Not for minds or hands profane
To tamper with in practice vain.
Like to a woman's virtue is man's health;
A heavenly gift within a holy shrine!
To be approached and touched with serious fear,
By hands made pure and hearts of faith severe,
E'en as the priesthood of the One Divine."

We are in regular practice, responsible for what we say and do, and cordially invite those who desire further evidence of our success in curing chronic diseases to come to the Invalids' Hotel and Surgical Institute and satisfy themselves of the truthfulness of our statements.

We are warranted in saying that our responsibility and disposition for fair dealing are known to many of the principal mercantile houses, as well as by all prominent American editors. We also refer to our present and former patients, one or more of whom may be found in almost every hamlet of America. To all who are under our treatment we devote our highest energies and skill, fully realizing that an untold blessing is conferred upon every person whom we cure, and that such cures insure the permanency of our business. On the contrary, we realize how unfortunate it is for us to fail in restoring to health any person whom we have encouraged to hope for relief. We are careful, therefore, not to assume the treatment of incurable cases, except when desired to do so for the purpose of mitigating suffering or prolonging life; for we never wish to encourage false hopes of recovery.

TERMS FOR BOARD AND TREATMENT AT THE INVALIDS' HOTEL AND SURGICAL INSTITUTE

are moderate, varying with the nature of the case and the apartments occupied. So great is the number at times applying to avail themselves of the skill of our Faculty, and the advantages which our institution affords, that we are unable to receive all applicants. To be sure of securing good apartments, it is well to engage them sometime ahead, and make an advance payment of fifty dollars or more upon them, which will be refunded in case acute sickness or any similar cause should prevent the patient from occupying them at the time specified. Complete terms for treatment and board can be arranged only when personal application for entrance to the institution is made, and the nature and extent of the disease and the necessary treatment fully determined by personal examination of the case. If satisfactory terms and arrangments cannot at that time be agreed upon, or if the case be deemed incurable, any advance payments that have been made to secure good apartments will be promptly refunded.

VISITING PATIENTS WHO RESIDE AT A DISTANCE.

We are frequently asked to visit patients residing hundreds of miles away, that we may personally examine their cases, perhaps consult with the attendant physician or surgeon, or perform difficult surgical operations. If those who desire to avail themselves of the medical or surgical skill afforded by our organization of associated physicians and surgeons, will indicate as nearly as possible the nature of the patient's malady for which our services are desired, we can generally detail the physician or surgeon having charge of the special branch of practice to which the case belongs. Our charges will be moderate for such visits at a distance, depending somewhat upon the distance to be traveled, and will be made known at any time by request. Different members of our staff have traveled many thousands of miles to visit important cases and to perform surgical operations.

TO PHYSICIANS

wishing to consult us in intricate cases of chronic diseases under their treatment, we desire to say that we shall, as in the past, take pleasure in responding to their solicitations. We have all the necessary instruments and appliances required in executing the most difficult surgical operations, and, as we have had much experience in this department, we are always ready and able to assist physicians who do not practice operative surgery. In this age of railways and telegraphs medical and surgical aid can be summoned from a distance and promptly obtained.

OUR MEDICINES

as put up for sale through druggists, are not recommended as "cure-alls," or panaceas, but only as superior remedies for certain common and easily-recognized diseases. They are our favorite prescriptions, improved and perfected by long study and a vast experience in the treatment of chronic diseases, and have gained world-wide celebrity and sale. We are well aware that there are many chronic diseases that can only be successfully treated and cured by careful adaptation of remedies to each individual case. This is especially true of the ever-varying and delicate diseases of the kidneys and bladder. It is not less so with reference to nervous debility, involuntary vital losses, with which so many young and middle-aged men are afflicted; and we may also include in this list epilepsy or fits, paralysis or palsy, obstinate gleety discharges, and many other chronic and delicate ailments *for which we do not recommend* any of our put-up, ready-made, or proprietary medicines, but of which our staff of physicians and surgeons cure annually many thousands of cases.

NO RELATIONSHIP WITH HUMBUGS.

Had our put-up or proprietary medicines, as sold by druggists the world over, been adapted to all classes and forms of chronic diseases,

there would have been no necessity for our organizing a competent staff of physicians and surgeons to act as experts in the treatment of difficult, obscure, and complicated cases of chronic diseases. That we keep constantly employed, in our Buffalo and London institutions, eighteen medical gentlemen, with such helpers as stenographers, clerks, etc., is indisputable proof that the medicines we offer for sale through druggists should not be classed with the humbug nostrums recommended to cure everything. They are the outgrowth of our vast and extended practice in the treatment of chronic diseases; are well-tried, world-famed, and *honest medicines*. They are not unduly puffed and lauded, but simply recommended for such diseases as are easily recognized and which they are *known to cure*.

NOT CONFINED IN PRESCRIBING.

Our physicians, in the treatment of cases consulting us, prescribe just such medicines as are adapted to each particular case. *They are not confined in the least* to our list of a few put-up or proprietary medicines (valuable as they are when applicable to the case) but resort to the whole broad range of the *materia medica*, employed by the most advanced physicians of the age. They are not hampered by any school, *ism* or "*pathy*."

OUR MEDICINES PREPARED WITH THE GREATEST CARE.

The medicines employed are all prepared in our own Laboratory by skilled chemists and pharmacists, and the greatest care is exercised to have them manufactured from the freshest and purest ingredients. Our Faculty probably employ a greater number and variety of native roots, barks, and herbs, in their practice than are used in any other invalids' resort in the land. Using vast quantities of these indigenous medicines, we can afford and do not neglect to have them gathered with great care, at the proper seasons of the year, so that their medicinal properties may be most reliable. Too little attention is generally paid to this matter, and many failures result from the prescribing of worthless medicines by physicians who have to depend for their supplies upon manufacturers who are careless or indifferent in obtaining the crude plants and roots from which to manufacture their medicines for the market. While depending largely upon solid and fluid extracts of native plants, roots, barks, and herbs, in prescribing for disease, yet we do not use them to the exclusion of other valuable curative drugs and chemicals. We aim to be unprejudiced and independent in our selection of remedies, adopting at all times a rational system of therapeutics. This liberal course of action has, in a vast experience, proved most successful.

WORLD'S DISPENSARY MEDICAL ASSOCIATION,

663 MAIN STREET, BUFFALO, N. Y.

PRESIDENT GARFIELD'S

ENDORSEMENT OF THE

Invalids' Hotel and Surgical Institute

AND ITS FOUNDER.

The following letter from an eminent lawyer of Tennessee, is noteworthy, inasmuch as it shows the estimation in which Dr. Pierce and the institutions which he has founded were held by the lamented Garfield, who was one of the Doctor's intimate friends and colleagues while he was serving as a member of Congress:

OFFICE OF H. F. COLEMAN,
ATTORNEY AT LAW,
SNEEDVILLE, TENN., Aug. 11, 1884.

World's Dispensary Medical Association, 663 Main St., Buffalo, N. Y.

GENTLEMEN:—Your letter of the 31st ult. just received and contents noted. I am perfectly satisfied with the explanation, and ask pardon for the sharp letter written you some days since. The mails are very irregular, as you know, and we are too apt to be impatient and attribute our mishaps to the wrong cause. Your honesty, integrity and ability are not doubted in the least by me.

I have, perhaps, a higher endorsement of you than any other patient under your care, and for your gratification I will give it to you.

Some time since I was in conversation with Congressman Pettibone, of this State, when the following conversation took place: "You say," said the Major, "that you have visited Dr. Pierce's medical establishment in Buffalo, New York?" "Yes, sir, I did." "You found everything as represented?" "Yes, sir, as was represented, and which I assure you was quite encouraging to a man who had traveled as far as I had to visit an institution of that kind." "That man, Dr. Pierce," said the Major, "is one of the best men of the times. While at Washington, during my first term." he continued, "one day I was in President Garfield's room and a fine-looking, broad-foreheaded gentleman came in, and President Garfield arose and took him by the hand and said, 'Good morning, Doctor, I am so glad to see you,' and then turned and introduced him to me as Dr. Pierce, of Buffalo, New York. Knowing the Doctor by reputation, and having seen his pictures, I at once recognized him. He, in a short time, left the room, and Garfield said to me, 'Major, that is one of the best men in the world, and he is at the head of one of the best medical institutions in the world.'"

With this high endorsement, I have unbounded confidence in your integrity and ability. Very truly yours,

H. F. COLEMAN.

NOTICES OF THE PRESS.

OUR PROFESSIONAL STAFF.

The Buffalo *Evening News* says: "Each and every member of the medical and surgical staff of the Invalids' Hotel and Surgical Institute is a graduate in medicine and surgery from one or more legally chartered medical colleges, and several of the members have had many years of experience as army surgeons, and in hospital and general as well as in special practice. One is a licentiate of the Royal College of Physicians, Edinburgh; licentiate of the Faculty of Physicians and Surgeons, Glasgow; licentiate of midwifery, Glasgow; member of the Royal College of Surgeons, London, England; extraordinary member of the Royal Medical Society, Edinburgh, etc. Another is a graduate of the University of Pennsylvania, at Philadelphia; another of the New York Medical College; another of the Buffalo Medical College, and of the College of Physicians and Surgeons, New York; another of Cincinnati Medical College, and of the University of New York; another from Buffalo Medical College, and diplomas from all these institutions, as well as from many others equally noted, can be seen at the offices of this institution, if any one feels any interest in them."

From the "Roman Citizen," (Rome, N. Y.).

THE INVALIDS' HOTEL AND SURGICAL INSTITUTE.

One of the most extensive institutions in this country for the treatment of chronic ailments is the Invalids' Hotel and Surgical Institute at Buffalo, under the control of the World's Dispensary Medical Association, of which Dr. R. V. PIERCE is President. The hotel itself is a wonderful affair, combining all the comforts and conveniences of a luxurious home with the most complete facilities for the successful treatment of all chronic diseases incident to humanity. Dr. PIERCE has a world-wide fame as a skillful practitioner, and his corps of assistants comprises many physicians and surgeons of great ability and large experience in the treatment of chronic and surgical diseases. Those who have been treated by the Association are loud in their praises, and we understand that the number of its patients increases with each succeeding year. The country is full of people who have been "doctoring" year after year without successful results, and the probabilities are that in a majority of such cases a few months spent at the Invalids' Hotel and Surgical Institute in the care of its medical experts, would result in material and permanent benefit.

From the Washington (D. C.) Chronicle of Jan. 4, 1885.

ONE OF THE ATTRACTIONS AT BUFFALO.

President-elect Cleveland is not by any means the only attraction at Buffalo. In that enterprising city some eminent and capable professional people have established an "Invalids' Hotel and Surgical Institute," under the comprehensive direction and control of the "World's Dispensary Medical Association" at 663 Main Street, in that beautiful city. This Institute is organized with a full staff of eighteen physicians and surgeons, and the hotel is exclusively devoted to treatment of chronic diseases. This corps of doctors make a specialty of chronic

maladies, and the Institute is reputed to have abundant skill, facilities, and apparatus for the successful treatment of every form of chronic ailment, whether requiring for its cure medical or surgical means.

The building occupied is a massive one of five stories.

From the Missouri Republican (St. Louis).

A REMARKABLE PROFESSIONAL SUCCESS.

Among the notable professional men of this country who have achieved extraordinary success is Dr. R. V. PIERCE, of Buffalo, N. Y. The prominence which he has attained has been reached through strictly legitimate means, and so far, therefore, he deserves the enviable reputation which he enjoys. This large measure of success is the result of a thorough and careful preparation for his calling, and extensive reading during a long and unusually large practice, which has enabled him to gain high commendation, even from his professional brethren. Devoting his attention to certain specialties of the science he has so carefully investigated, he has been rewarded in a remarkable degree. In these specialties he has become a recognized leader. Not a few of the remedies prescribed by him have, it is said, been adopted and prescribed by physicians in their private practice. His pamphlets and larger works have been received as useful contributions to medical knowledge. He has recently added another, and perhaps more important work, because of more general application, to the list of his published writings. This book, entitled "The People's Common Sense Medical Adviser," is designed to enter into general circulation. For his labors in this direction, Dr. PIERCE has received acknowledgments and honors from many sources, and especially scientific degrees from two of the first medical institutions in the land. His works have been translated into the German, Spanish, French, and other foreign languages.

From the Toledo Blade.

Dr. PIERCE has now been before the general public long enough to enable the formation of a careful estimate of the efficiency of his treatment and his medicines, and the verdict, we are glad to know, has been universally favorable to both.

From the St. Louis Globe.

THE SUCCESSFUL PHYSICIAN.

Dr. PIERCE is a type of a class of men who obtain success by careful and well-directed effort, not attempting too much, nor creating false ideas as to ability. The only reliable physician, in these days of complicated disorders and high-pressure living, is the "Specialist," the man who understands his own branch of the business. Such, in his line, is Dr. PIERCE. He has written a "Common Sense Medical Adviser," which is well worth reading. With strict business honor, high professional skill, reasonable fees, and a large corps of competent assistants Dr. PIERCE has made his name as familiar as "household words."

From the Rocky Mountain Herald.

Dr. R. V. PIERCE, the greatest American specialist, and proprietor of the World's Dispensary, Buffalo, N. Y., has sent us his new book entitled "The People's Common Sense Medical Adviser," which is a handsome, large volume, elegantly got up, with hundreds of wood-cuts

and colored plates, and a complete cyclopedia of medical teachings for old and young of both sexes. *It has every thing in it*, according to the latest scientific discoveries, and withal is wonderfully *commonsensical* in its style and teachings.

From the Lafayette Daily Courier.

Dr. R. V. PIERCE, of Buffalo, distinguished in surgery, and the general practice of the profession he honors, has made a valuable contribution to the medical literature of the day, in a comprehensive work entitled "The People's Common Sense Medical Adviser." While scientific throughout, it is singularly free from technical and stilted terms. It comes right down to the common-sense of every-day life, and, to quote from the author himself, seeks to "inculcate the facts of science rather than the theories of philosophy." This entertaining and really instructive work seems to be in harmony with the enlarged sphere of thought, as touching the open polar sea of evolution. He considers man in every phase of his existence, from the rayless atom to the grand upbuilding of the noblest work of God. Dr. PIERCE is a noble specimen of American manhood. He has sprung from the people, and with many sympathies in common with the masses, has sought to render them a substantial service in this the great work of his life.

From the New York Independent.

LAURELS FOR TRUE WORTH.

"A wise physician, skill'd our wounds to heal,
Is more than armies to the public weal."

To be honored in his own land is the crowning blessing of the man who has been "the architect of his own fortune"—the man who has made for himself, with his own hands and brain, a princely fortune and an enduring fame. From COMLEY'S History of New York State, containing biographical sketches of the men who "have given wealth, stamina, and character" to the Empire State, we clip the following brief sketch of the distinguished physician, Dr. R. V. PIERCE, of Buffalo: "Every nation owes its peculiar character, its prosperity—in brief, every thing that distinguishes it as an individual nation,—to the few men belonging to it who have the courage to step beyond the boundaries prescribed by partisanship, professional tradition, or social customs. In professional no less than in political life there occasionally arise men who burst the fetters of conventionalism, indignantly rejecting the arbitrary limits imposed upon their activity, and step boldly forward into new fields of enterprise. We call these men *self-made*. The nation claims them as her proudest ornaments—the men upon whom she can rely, in peace for her glory, in war for her succor. Of this class of men the medical profession has furnished a distinguished example in the successful and justly-celebrated physician, Dr. R. V. PIERCE, of Buffalo, N. Y., and any history treating of the industries of the Empire State would be incomplete without a sketch of his useful and earnest work. * * * Specially educated for the profession which he so eminently adorns, he early supplemented his studies by extensive and original research in its several departments. He brought to his chosen work acute perceptive and reflective powers, and that indomitable energy that neither shrinks at obstacles nor yields to circumstances. In physique, Dr. PIERCE is an ideal type of American manhood. Of medium stature, robust, his appearance is characterized by a healthful, vigorous vitality, while the full, lofty brow and handsomely-

cut features are indicative of that comprehensive mental power and remarkable business sagacity which have combined to place him among the distinguished men of the age. * * * As an earnest worker for the welfare of his fellow-men, Dr. PIERCE has won their warmest sympathy and esteem. While seeking to be their servant only, he has become a prince among them. Yet the immense fortune lavished upon him by a generous people he hoards not, but invests in the erection and establishment of institutions directly contributive to the public good, the people thus realizing, in their liberal patronage, a new meaning of the beautiful Oriental custom of casting bread upon the waters. Noted in both public and private life for his unswerving integrity and all those sterling virtues that ennoble manhood, Dr. PIERCE ranks high among those few men whose names the Empire State is justly proud to inscribe upon her roll of honor." Dr. PIERCE has lately erected a palatial Invalids' Hotel for the reception of his patients, at a cost of over half a million dollars. It was opened to the public May 1, 1878.

A MAN OF THE TIME.

Speaking of Dr. R. V. PIERCE, the *Buffalo* (N. Y.) *Commercial* says: "He came here an unknown man, almost friendless, with no capital except his own manhood, which, however, included plenty of brains and pluck, indomitable perseverance, and inborn uprightness, capital enough for any man in this progressive country, if only he has good health and habits as well. He had all these great natural advantages, and one thing more, an excellent education. He had studied medicine and been regularly licensed to practice as a physician. But he was still a student, fond of investigation and experiment. He discovered, or invented, important remedial agencies or compounds. Not choosing to wait wearily for the sick and suffering to find out (without any body to tell them) that he could do them good, he advertised his medicines and invited the whole profession of every school, to examine and pronounce judgment on his formulas. He advertised liberally, profusely, but with extraordinary shrewdness, and with a method which is in itself a lesson to all who seek business by that perfectly legitimate means. His success has been something marvelous—so great, indeed, that it must be due to intrinsic merit in the articles he sells, more even than to his unparalleled skill in the use of printer's ink. The present writer once asked a distinguished dispensing druggist to explain the secret of the almost universal demand for Dr. PIERCE'S medicines. He said they were in fact genuine medicines—such compounds as every good physician would prescribe for the diseases which they were advertised to cure. Of course, they cost less than any druggist would charge for the same article, supplied on a physician's prescription, and, besides, there was the doctor's fee saved. Moreover, buying the drugs in such enormous quantities, having perfect apparatus for purifying and compounding the mixture, he could not only get better articles in the first place, but present the medicine in better form and cheaper than the same mixture could possibly be obtained from any other source.

Extracts from Biographical Sketches of New York Senators.

At the age of eighteen, he (Dr. PIERCE) entered a medical school, and proved a devoted student, graduating at twenty-three with the highest honors. A simple knowledge of the routine of practice as then in vogue, was not enough. He sought new means of healing, and explored "schools" of practice that were prohibited by his sect. He de-

nounced errors in the prevailing "schools" and accepted truths belonging to those prohibited. Every one knows how such daring and destructive innovations are regarded by the medical profession generally. Dr. PIERCE was no exception to the rule. But he paid no attention to detraction, pursuing his own way with that energy which proves now to be a most excellent ally of his medical instincts.

The World's Dispensary is to-day the greatest institution of its kind in the world. More than two hundred persons are employed, eighteen being skillful physicians and surgeons, each devoting himself to a special branch of the profession, all acting together when required, as a council. The printing department of the Dispensary is larger than the similar department of any paper outside of the *New York Herald*.

From the New York Times.

WELL-MERITED SUCCESS.

The author of "The People's Medical Adviser" is well-known to the American public as a physician of fine attainments, and his Family Medicines are favorite remedies in thousands of our households. As a counselor and friend, Dr. PIERCE is a cultured, courteous gentleman. He has devoted all his energies to the alleviation of human suffering. With this end in view and his whole heart in his labors, he has achieved marked and merited success. There can be no real success without true merit. That his success is *real*, is evidenced by the fact that his reputation, as a man and physician, does not deteriorate; and the fact that there is a steadily increasing demand for his medicines, proves that they are not nostrums, but reliable remedies for disease. The various departments of the World's Dispensary in which his Family Medicines are compounded and his special prescriptions prepared, are provided with all modern facilities.

The New York Tribune says:

"The American mind is active. It has given us books of fiction for the sentimentalist, learned books for the scholar and professional student, but *few books for the people*. A book *for the people* must relate to a subject of universal interest. Such a subject is the physical man, and such a book 'The People's Common Sense Medical Adviser,' a copy of which has been recently laid on our table. The high professional attainments of its author,—Dr. R. V. PIERCE, of Buffalo, N. Y., —and the advantages derived by him from an extensive practice, should alone insure for his work a cordial reception." Price $1.50, post-paid. Address, WORLD'S DISPENSARY MEDICAL ASSOCIATION, Buffalo, N. Y.

From the Boston Daily Globe.

A CURE FOR MANY EVILS.

What can be accomplished by judicious enterprise, when backed up by ability and professional skill, is shown by the magnificent buildings of the World's Dispensary and the Invalids' Hotel and Surgical Institute, at Buffalo. While models of architectural beauty and completeness, their real worth and usefulness consist rather in the humanitarian objects they are made to serve. They stand superior to all institutions of their kind, not only in material proportions but as well in the medical knowledge and practical experience of those connected with them. In each department are those and those only who by natural bent and training are specially adapted to combating their particular class of "the ills which flesh is heir to."

VOCABULARY

OF THE

COMMON SENSE MEDICAL ADVISER,

GIVING EACH TECHNICAL WORD EMPLOYED, REFERRING TO ITS ILLUSTRATION WHEN POSSIBLE, AND IN CASE THE WORD WILL NOT PERMIT OF A SHORT DEFINITION, REFERRING TO THE PAGE WHERE A FULL DESCRIPTION OF ITS MEANING MAY BE FOUND.

A

Abdomen. The part of the body between the diaphragm and pelvis, containing the stomach, intestines, etc. The belly.

Abdominal. Belonging to the Abdomen.

Abortion. Expulsion of the fœtus before the seventh month of pregnancy.

Absorption. The function of taking up substances from within or without the body.

Acetabulum. The bone socket which receives the head of the thigh bone.

Acne. Pimples upon the face, more common at the age of puberty.

Adipose Tissue. A thin membrane composed of cells which contain fat.

Adventitious. Acquired.

Albumen in urine in chemical composition resembles the white of an egg, and is detected by the application of heat, nitric acid, etc.

Albuminoid. Of the nature of albumen.

Albuminuria. A condition or disease in which the urine contains albumen. (See above.)

Alimentary Canal. The canal extending from the mouth to the anus, through which the food passes.

Allopathy. Allopathic school. Defined on page 293.

Alterative. A medicine which gradually changes the constitution, restoring healthy functions.

Alveolar process. The bony structure which contains the sockets of the teeth.

Amaurosis. Loss or decay of sight from disease of the optic nerve.

Amenorrhea. Suppression of the menses.

Amnion. A membrane enveloping the fœtus and the liquid.

Amputation. The operation of cutting off a limb.

Amyloid degeneration. Alteration in the texture of organs, which resembles wax or lard.

Amyloids. Foods composed of carbon and hydrogen; as sugar, starch, etc.

Anæmia. Privation of blood. Lack of red corpuscles in the blood.

Anasarca. Dropsy attended with bloating all over the body.

Anatomy. The science of the structure of the body.

Anesthetic. An agent that prevents feeling in surgical operations, and in some diseases of a painful nature.

Angina (pectoris). Violent pain about the heart, attended with anxiety and difficult breathing.

Animalcula, Animalcule. An animal so small as to be invisible, or nearly so, to the naked eye.

Anodynes. Medicines which relieve pain.

Anteversion. The womb falling forward upon the bladder. Illus. p. 716.

Anthelmintics. Medicines which destroy or expel worms from the stomach and intestines.

Antidote. A remedy to counteract the effect of poison.

Antifebrile. A remedy which abates fever.

Antiperiodic. A remedy which prevents the regular appearance of similar symptoms in the course of a disease.

Antiseptic. Medicines which prevent putrefaction.

Antispasmodics. Medicines which relieve spasm.

Anus. The circular opening at the end of the bowel, through which the excrement leaves the body.

Aorta. The great artery of the body arising from the heart. Illus. page 58.

Aperient. A medicine which moves the bowels gently.

Aphthæ. Sore mouth, beginning in pimples and ending in white ulcers.

Aphthous. Complicated with aphthæ.

Apnœa. Short, hurried breathing.

Apoplexy. The effects of a sudden rush of blood to an organ; as the brain, lungs, etc. Brain pressure, from rupture of a blood-vessel.

Aqueous humor. The clear fluid contained in the front chambers of the eye.

Arachnoid. A thin, spider-web like membrane covering the brain.

Areolar Tissue. The network of delicate fibres spread over the body, binding the various organs and parts together,

Artery. A vessel carrying blood from the heart to the various parts of the body; usually red in color.

Articular. Relating to the joints.
Articulated. Jointed.
Articulations. The union of one bone with another. A joint.
Ascites. Accumulation of fluid in the abdominal cavity.
Asphyxia. A condition of apparent death owing to the supply of air being cut off; as in drowning, inhalation of gases, sunstroke, etc.
Aspirator. An instrument for the evacuation of fluids from the cavities of the body, as water in abdominal dropsy, the contents of tumors, etc.
Assimilation. Appropriating and transforming into its own substance, matters foreign to the body.
Astringents. Medicines which contract the flesh.
Atonic, Atony. Wanting tone.
Atrophied. Wasted; lessened in bulk.
Atrophy. Wasting away; diminution in size.
Auditory nerves. The nerves connecting the brain with the ears and employed in exercising the sense of hearing.
Auscultation. Diagnosing diseases by listening, either with or without instruments.

B

Balanitis. Gonorrhea of the mucous surface of the head of the penis.
Benign. Harmless; a term applied to tumors.
Beverage. A liquor for drinking.
Bile. A yellow bitter fluid secreted by the liver. Defined on page 80.
Bilious. Disordered in respect to bile. Relating to bile.
Bilious temperament, Volitive temperament. See page 173.
Biology. The science of life.
Bistoury. A small cutting knife.
Bladder (urinary). The organ, situated behind the pubic bone, which holds the urine until its expulsion. Illus. pages 206 and 207.
Blebs. Eminences of the skin containing a watery fluid.
Bloody-flux. A disease characterized by frequent, scanty, and *bloody* stools.
Boil. An inflamed tumor which comes to a head and discharges matter and a core. See page 443.
Bolus. A large pill.
Bougie. A long, flexible instrument used for dilating contracted canals and passages.
Breach. Some form of hernia of the abdomen. See page 862.
Broad ligaments of the uterus. Folds of the peritoneum which support the womb and contain the Fallopian tubes and ovaries. Illus. p. 206.
Bronchea. Tubes formed by the division of the windpipe. Illus. page 64.
Bronchocele. Thick neck, goitre.
Bubo. An inflammatory tumor in the groin.
Bulla. A bleb or large pimple containing transparent fluid.

C

Cachexia. A depraved condition of the system; as from poor food, syphilis, etc.
Calcareous. Containing lime.
Calcification. The process of forming of, or converting into, chalk.
Calculus, calculi. Stones or similar concretions formed by the deposit of solid matter; of lime, soda, uric acid, urates, oxalates, etc.
Calisthenics. Healthful exercise of the body and limbs, for purposes of strength and agility.
Cancellated structure. Cells communicating with each other forming a structure resembling "lattice-work."
Canker. Ulcers in the mouth.
Capillaries. Very small blood-vessels. Defined on page 60.
Carbonic Acid. A heavy, poisonous gas. Choke damp.
Cardiac. Pertaining to the heart. Near or towards the heart.
Carminatives. Medicines which allay pain in the stomach and intestines by expelling the gas.
Carotids. The great arteries at the sides of the neck.
Cartilage. A solid part of the body found in the joints, ends of the ribs, etc. It is softer than bone but harder than ligament.
Cartilaginous tissue. Parts of the body of the nature of cartilage.
Carunculæ. Fleshy growths.
Casein. The part of milk which contains nitrogen. Cheese curd.
Catalytics. Medicines which destroy morbid agencies in the blood. Alteratives.
Catamenia. Monthly flow of the female.
Cataract. Opacity of the lens of the eye, or its covering, or both.
Cathartics. Medicines which cause evacuation of the bowels.
Catheter. A hollow tube introduced into the bladder through the urethra for the purpose of drawing off the urine.
Caustics. Substances which destroy animal tissue.
Cauterization. Burning or searing by a hot iron, or caustic medicines.
Cauterize. To burn or sear by a hot iron, or by medicines which destroy.
Cell. A little vessel having a membranous wall and containing fluid. The whole body may be considered as formed of different kinds of cells.
Cellular structure. See **Cancellated structure.**
Cerebellum. Little brain. Base brain. Illus. page 100.
Cerebrum. The upper or large brain. Illus. page 100.
Cervix. Neck; neck of the womb. Illus. page 206.
Chalybeate. Mineral waters which contain iron.
Chancre. A virulent, syphilitic ulcer. Illus. Figs. 27 and 28, Colored Plate V.
Chancroid. Resembling infectious chancre. Soft chancre.

Chlorosis. Green sickness. A disease of young women attended with a greenish hue of the skin, debility, etc.
Cholagogues. Cathartics which stimulate the liver.
Chordæ tendineæ. Cord-like substances about the valves of the heart. See page 57.
Chordee.
Choroid. The dark colored lining membrane of the eye.
Chyle. Food digested and ready for absorption. See pages 45 and 49.
Chylous products. See **Chyle.**
Chyme. Food after being subjected to the action of the gastric fluids.
Cicatrix. The scar or place where parts which have been cut or divided, are united.
Cilia. Small hairs.
Circumcision. An operation for removing superfluous foreskin.
Circumvallate. Arranged in oblique lines, as the prominences on the back of the tongue.
Clap. Gonorrhea. A venereal disease of the urethra.
Clavicle. See **Collar-bone.**
Clinical medicine. Investigation of disease at the bed-side.
Coagulate. To thicken or harden, as heat hardens the white of an egg.
Coition. Sexual intercourse. The act of generation.
Collar-bone (Clavicle). A bone at the front and top of chest, attached by one end to the breast-bone and by the other to the shoulder-blade.
Colon. Part of the large intestines. Illus. page 40.
Coma. A condition of profound sleep from which it is difficult to arouse the patient.
Comedones. Pimples on the face. See page 442, and Fig. 3, Plate II.
Compress. A soft cloth folded to several thicknesses, so that with a bandage pressure can be applied, or by wetting in hot water, a part can be subjected to the influences of heat and moisture.
Conception. Impregnation of the ovum; the beginning of a new being.
Congenital. Applied to a disease born with one; from birth.
Congestion. An abnormal amount of blood in a part or organ.
Conjunctiva. The membrane which covers the external surface of the eyeball.
Conjunctivitis. Inflammation of the eye.
Contagion. The transmission of disease from one to another by contact, as hydrophobia, syphilis; or otherwise, as measles, scarlet fever, etc.
Contagious. Capable of being transmitted from one person to another.
Continence. Abstinence from sexual intercourse or excitement.
Convalescence. The recovery of health after sickness.
Convoluted. Curved or rolled together.
Copulation. Sexual intercourse.
Corium. A layer of the skin.
Cornea. A transparent covering of the front of the eye.
Corpuscles of the blood. Defined and illustrated on page 53.
Counter-irritants. Defined on page 331.
Cowper's glands of the male. Glands situated in front of the prostate gland. Illus. page 207.
Coxalgia. Hip-joint disease. See page 451.
Cranium. The skull. The bones of the head.
Crayons. Sticks or cylinders made of Cocoa butter and medicated.
Cross-eye. One or both eyes drawn towards the nose. Squint.
Crustaceous. Belonging to the class of animals covered by a crust-like shell.
Cutaneous. Belonging to, or affecting, the skin.
Cuticle. The outer layer of the skin, consisting of small bony scales.
Cystitis. Inflammation of the bladder. In chronic form, Catarrh of the bladder.

D

Debris. Broken-down tissue. Waste material.
Decoction. Defined on page 303.
Defecation. Voiding excrement from the body.
Degeneration, fatty. The deposit of particles of fat instead of the proper muscular tissue.
Deglutition. Swallowing. Conveying food to the stomach.
Dejection of mind. Despondency. Low spirits.
Dejections. The matter voided from the bowels.
Deleterious. Destructive. Poisonous.
Dentition. Cutting of the teeth in infancy.
Deodorizer. A substance that destroys a bad smell.
Depletion. To empty the blood-vessels by lancing a vein or by medicines.
Depravation. Corruption.
Depurating. Cleansing.
Dermatologist. One who makes diseases of the skin a specialty.
Desiccate. To dry up.
Desquamation. Scaling off of the skin, after fevers.
Desquamative nephritis. Bright's Disease, in which epithelial cells escape with the urine.
Diabetes. Defined on page 835.
Diagnosis. The determination of a disease by its symptoms or characteristics.
Diagnostic. The symptoms by which a disease is distinguished from others.
Diaphoretic. Medicines which increase perspiration.
Diaphragm. Defined on page 32.
Diathesis. Peculiarity of constitution. Predisposition to certain diseases.
Digestion. The function by which food passing along the alimentary canal is prepared for nutrition.

Dilatation. Increasing in size by instruments or other agencies.
Diluents. Fluids which thin the blood or hold medicines in solution.
Director. An instrument having a groove which directs the knife and protects underlying parts from injury.
Disinfectants. Substances which arrest putrefaction.
Dislocation. The act of, or state of, being forced from its proper situation.
Distilled. Separated by heat from other substances and collected by condensation.
Diuretics. Medicines which increase the flow of urine.
Douche. Dashes of water. An instrument for washing the nasal membrane.
Drastics. Medicines which move the bowels harshly or frequently.
Dropsy. The accumulation of fluid in the cavities or cellular tissue of the body.
Duodenum. The first portion of the intestines. Illus. page 44.
Dura Mater. A thick, fibrous membrane lining the skull.
Dyscrasia. A bad condition of body.
Dysentery. A disease characterized by frequent, scanty and *bloody* stools.
Dysmenorrhea. Difficult or painful menstruation.
Dyspnœa. Difficult breathing.

E

Ear, Internal. Defined on page 110. Illus. page 109.
Earthy phosphates. The white deposit in urine, composed of phosphoric acid and a base.
Ecchymosis. Black or yellow spots produced by effused blood. Black eye is an example.
Eclectic School. See page 294.
Ecraseur. An instrument which amputates by a loop of wire.
Eczematous. Of the nature of Eczema. See page 430.
Edema (Œdema). Puffiness of the skin from the accumulation of fluid. General dropsy.
Effluvia. Unpleasant odors or exhalations.
Effusion. The pouring out of blood or other fluid.
Electrolysis. Decomposing or modifying by the application of electricity.
Eliminated. Discharged, expelled.
Emaciation. Leanness in flesh.
Embryo. The young of an animal at the beginning of its development in the womb.
Emetics. Medicines which empty the stomach upwards.
Emmenagogues. Medicines which favor or cause menstruation.
Empiricism. Practicing medicine upon results of experience, generally by a person without a medical education.
Encephalic Temperament. Defined on page 177.
Endocarditis. Inflammation of the lining membrane of the heart.
Endocardium. The lining membrane of the heart.
Endometritis. Disease of the lining membrane of the womb.
Enteric. Intestinal.
Enteritis. Inflammation of the mucous lining of the small intestines.
Epidemics. Diseases which attack a number of persons at the same time; as yellow fever, small-pox, etc.
Epiglottis. A cap over the windpipe, allowing the admission of air, but preventing the introduction of foreign bodies.
Epithelial cells. Cells belonging to the epithelium.
Epithelium. The thin covering upon the lips, nipple, mucous and serous membranes and lining the ducts, blood-vessels and other canals.
Esophagus (Œsophagus). The food-pipe. Illus. page 44.
Eustachian Tube. The tube leading from the throat to the inner ear. Illus, page 109.
Evacuant. Cathartic.
Evolution. Defined on page 14.
Excoriates. Removes the skin in part.
Excoriation. A wound which removes some of the skin.
Excrementitious. Pertaining to the matter evacuated from the body.
Excrescences. Surface tumors; as warts, piles, polypi, etc.
Excretion. The process by which waste materials are removed from the blood, performed particularly by the lungs, skin and kidneys.
Excretory ducts. Minute vessels which transmit fluid from glands.
Exhalations. That which is thrown off by the body, as vapor, gases, etc.
Expectorants. Medicines which promote discharges from the lungs.
Expiration. Expelling the breath.
Extraneous matter. Any substance which finds a place in the body and does not belong there. Foreign substances.
Extra-uterine. Outside of the womb. but in its vicinity.
Extravasated. Escaped into surrounding tissues.
Extremities. Legs or arms.
Exudation. Substances discharged through the pores.
Exude. To sweat; to pass through a membrane.

F

Fallopian Tube. The canal through which the ovum passes from the ovary to the womb.
Faradization. The application of electricity by inductive currents.
Fascia. The white fibrous expansion of a muscle which binds parts together.
Fatty degeneration. The deposit of particles of fat instead of proper muscular tissue.
Febrifuge. A medicine which abates or cures fevers.
Febrile. Relating to fever.

Fecundation. The ovum uniting with the male germ. Impregnation.
Femoral Hernia. Thigh hernia. Ill us. page 863.
Fermented. Changed by a process of decomposition.
Ferruginous. Containing iron.
Fetid. Having an offensive smell. Stinking.
Fetor. Offensive smell. Stench.
Fibrous. Composed of fibres.
Fibrous Tissue. The texture which unites every part of the body.
Filaments. Fibre; the basis of texture.
Fimbriated. Finger-like.
First Intention, Healing by. Healing without suppuration or the formation of pus.
Fissure. A crack.
Fistula; Fistulæ. Small canals or tubes which carry pus or other liquids through the flesh.
Fistula, Urinary. The abnormal communication between the urinary passages and the external surface.
Fistulous openings. The outer end of canals or tubes which carry pus to the surface.
Flatulency. Wind gathered in the stomach or bowels.
Flexion of the Womb. A partial misplacement in which the womb is bent upon itself.
Flexures. Bending. Motion of a joint.
Flocculent. Combining or adhering in flocks or flakes.
Fluid Extracts. The active principles of medicines in fluid form.
Fœtus. The unborn child.
Follicles (of hair). Small depressions in the skin.
Follicular. Relating to or affecting follicles.
Fomentations. Local application of cloths wrung out of hot water.
Forceps. An instrument having a motion and use like the thumb and fore-finger. Pincers. Obstetrical forceps embrace the head of the fœtus.
Foreskin. That part of the skin of the penis which is prolonged over the head of the organ.
Formication. A sensation like a number of ants creeping on a part.
Fracture. Broken bone. In *compound fracture* the end of the bone projects through the skin.
Function. The peculiar action of an organ, or part of the body.
Functional. Pertaining to the specific action of an organ or part.
Fundus. The bottom or base of an organ. The fundus of the womb is its upper part, when in its natural position.
Fungiform. Mushroom-shaped.

G

Galvanism. Electricity.
Galvano-cautery. Burning or searring by galvanic electricity.
Ganglion. A nerve center which forms and distributes nerve-power.
Gangrene. Death of a part.
Gastric. Pertaining to the stomach.
Gastric Juice. The digestive fluid supplied by the mucous membrane of the stomach.
Gelatinous. Jelly-like.
Generation. The functions which are active in reproduction.
Genitals. The sexual organs.
Gestation. Carrying the embryo in the uterus.
Glans. Head of the penis.
Gonorrhea. A discharge of mucous from inflammation of the urethra or vagina, caused by impure connection. Clap.
Granular casts. Moulds of epithelium found by the microscope in chronic Bright's Disease.
Granular lids. Roughness on the inner surface of the eyelids.
Granulation, Heal by. See **Granulations.**
Granulations. Flesh-like shoots, which appear in a wound and form its scar.
Granules. Small grains.
Gravel. Substances precipitated in the urine resembling sand.
Groin. The oblique depression between the belly and thigh.
Grubs. Pimples on the face. See page 442.
Gynecologist. One who makes the Diseases of Women a specialty.

H

Hair bulbs. The expansion or root of the hair.
Hallucinations. Perception or sensation of objects which do not exist; as in Tremens.
Hectic. Constitutional; as hectic fever, in which all parts of the body become emaciated.
Hemiplegia. Paralysis affecting only one side of the body.
Hemorrhoidal veins. The veins about the rectum which enlarge and form piles.
Hepatic. Relating or belonging to the liver.
Hereditary. A disease transmitted from parent to child.
Hernia. Defined on page 862.
Hollow of the Sacrum. The concave portion of the lower part of the spinal column within the pelvis.
Homeopathy. Defined on page 294.
Hyaline casts. Glassy appearing substances found by the microscope in urine in chronic Bright's Disease.
Hydragogues. Cathartics which produce copious watery discharges.
Hydrocele. Accumulation of fluid in the scrotum.
Hydrocephalus. Accumulation of fluid in the membranes about the brain.
Hydrothorax. Accumulation of fluid in the chest cavities.
Hygiene. The principles or rules for the promotion or preservation of health.
Hymen. Described on page 687.

Hyperæmia. Full of blood. Congestion.
Hypertrophy. Enlargement, thickening.
Hypochondriac. A person, usually dyspeptic, who is unreasonably gloomy, particularly about his health.
Hypodermic Syringe. An instrument having a very fine tube and needle-like point, by which medicines are lodged immediately under the skin.
Hysterotome. An instrument described and illustrated on page 696.

I

Idiopathic. Primary: not depending on another disease.
Illicit. Not permitted; unlawful.
Illusions. See **Hallucinations.**
Impacted. Wedged. Applied to feces which have remained in the rectum a long time.
Imperforate. Without a natural opening.
Impotency. Loss of sexual power.
Impregnation. Imparting the vital principle of the sperm-cell to the germ-cell, by which a new being is created.
Incipient. Commencement; first stage.
Independent Physician. Defined on page 295.
Indigenous. Native. Grows in a country.
Indolent. Painless; a term applied to tumors.
Induration. Hardening of a part or organ.
Infection. A prevailing disease. A disease spread only by contact, as itch, syphilis, etc.
Infiltration. The passage of fluid into the cellular tissue; as in General Dropsy.
Inflammation. Defined on page 398.
Infusion. Defined on page 303.
Inguinal Canal. A canal situated in the groin, through which the spermatic cord passes. The common seat of Hernia. Illus. page 862.
Inoculate. To communicate a disease by inserting matter in the flesh; as by vaccination.
Inorganic. Mineral. Bodies without organs.
Insalivation. Mixed with the saliva of the mouth, as food.
Insemination. The emission of sperm in coition.
Inspiration. Drawing in the breath.
Integument. The skin.
Intention, Healing by first. Healing without the formation of pus.
Intercostal. Between the ribs.
Intermittent. Having paroxysms or intervals.
Internal ear. Described on page 110; illus. page 109.
Intussusception. One part of the intestines forced into another part.
Invagination. See **Intussusception.**
Iridectomy. A surgical operation for the removal of the Iris.
Iris. A curtain which gives the eye its color.
Isolation. Separation from others.

K

Kadesh-barnea. The holy place in the desert of wandering; the headquarters of the Israelites for 37 years.

L

Laboratory. The work-room of a chemist or pharmacist.
Laceration. A wound made by tearing.
Lachrymal. Belonging to the tears.
Lachrymal Glands. Minute organs about the eyes which secrete tears.
Lactation. The act of giving suck.
Lacteals. The vessels of the breast which convey milk.
Lamella. Layer.
Laminæ. Thin bones, or the thin parts of a bone.
Lancinating. Acute, shooting pains fancifully compared to the pierce of a lance.
Larynx. That portion of the air-passage indicated in the male by "Adam's Apple."
Lascivious. Lustful; producing unchaste emotions.
Lateral operation. Cutting through the perinæum into the bladder.
Laxatives. Medicines which move the bowels gently.
Lesion. Derangement. Tearing or other division of parts, previously continuous.
Leucorrhea. Described on page 702.
Liberal Physician. Defined on page 295.
Ligament. A white inelastic tendon binding bones together.
Ligation. See **Ligature.**
Ligature. A cord or catgut tied around a blood-vessel to arrest hemorrhage.
Line. One-twelfth part of an inch.
Lithic deposits. Sediment or stone formed in the urine by uric acid.
Lobes. Round projecting parts of an organ; as lobes of the lungs, of the liver, etc.
Loin. The side of the body between the hip-bone and ribs.
Lotion. A wash.
Lumbago. Rheumatism in the small of the back and loins.
Lumbar vertebræ. That part of the backbone in the vicinity of the loins.
Lymph. A transparent fluid, resembling blood, found in lymphatic vessels. It contains corpuscles and coagulates.
Lymphatics. Defined on page 49.
Lymphatic Temperament. Described on page 157.

M

Malaria. See **Miasm.**
Malformation. Irregularity in structure.
Malignant. Applied to diseases which threaten life.
Mammæ. See **Mammary Glands.**
Mammalia. Animals that suckle their young.
Mammary Glands. The breasts or organs which secrete milk.
Manipulations. Examination and treatment by the hand.
Massage. Kneading, rubbing and stroking the surface to improve circulation and nutrition and to remove effete material.
Mastication. Chewing.
Masturbation. Excitement of the sexual organs by the hand.
Meatus. Canal or passage. External opening of a canal.
Median section. An operation for stone in the bladder in which the perineum and part of the urethra are cut; the prostatic portion of the urethra is dilated to introduce forceps and withdraw the stone.
Medulla Oblongata. Described on page 90; illus. page 96.
Melancholia. A mild form of insanity attended with great gloom and mental depression.
Membranous. Of the nature or construction of membrane.
Meninges. Membranes covering the brain.
Menorrhagia. Immoderate monthly flow.
Menses. Monthly flow of the female. See page 686.
Menstruation. The bloody evacuation from the womb.
Menstruum. A solvent; as water, alcohol, etc.
Mesenteric Glands. Glands about the peritoneum which secrete lymph.
Mesentery. Described on page 49.
Miasm, Miasma. A poisonous, gaseous exhalation from decaying vegetation, or from the earth.
Midwives. Females who attend women at childbirth.
Miscarriage. Defined on page 682.
Molecule. A minute portion of any body.
Monads. The smallest of all visible animalcules.
Monomania. Insanity on one subject.
Muco-purulent. Composed of mucus and pus.
Mucous Membrane. The thin, web-like lining to the canals and cavities which secretes a fluid by which it is constantly lubricated.
Mucus. A mucilaginous fluid found on the surface of certain membranes which keeps them soft and pliable. See **Mucous Membrane.**
Muscle. The structures of the body which execute movements.
Muscular Tissue. The flesh forming the muscles of the body.
Myalgia. Muscular rheumatism.

N

Narcotics. Medicines which stupefy.
Necrosis. Mortification or death of bone.
Nervines. Defined on page 345.
Nervous Tissue. That part of the body composed of nerve-fibres.
Neuralgia. Described on page 635.
Nicotin. A poisonous principle of tobacco.
Nitrogen. One of the gases in the atmosphere.
Nodes. Hard lumps, principally found upon the bones in syphilis.
Noxious. Injurious.
Nymphomania. Extreme desire for sexual intercourse in the female.

O

Obstetrical. Relating or appertaining to childbirth.
Occlusion. Approximation or closure.
Œdema. See **Edema.**
Olfactory Nerve. The nerve employed in the sense of smell. Illus. page 111.
Onanism. See **Masturbation.**
Opacity. Opaque condition of parts of the eye, causing blindness.
Opalescent. Reflecting a milky light.
Opaque. See **Opacity.**
Ophthalmia. Inflammation of the eye.
Ophthalmic. Belonging to the eye.
Ophthalmoscope. An instrument for examining the inside of the eye, for diagnostic purposes.
Optic Nerve. The nerve connecting the brain and eye, and employed in the sense of sight.
Organic. Pertaining to the structure of an organ.
Orifice. Opening or mouth.
Osseous Tissue. Bony structure.
Ossification, Ossifying. Made into bone by the deposit of phosphate of lime.
Os uteri. Mouth of womb. Illus. page 206.
Ova. Plural of ovum.
Ovaries. Two ovoid bodies situated either side of the womb. Illus. page 206.
Ovary. The female organ in which the ovum, or germ-cell, is formed. Illus. page 206.
Ovulation. The formation of the germ-cell in the ovary and its release from that organ.
Ovum. Defined and illustrated on pages 12 and 13.
Oxygen. The vital gas of the atmospheric air.
Ozæna. Described on page 474.

P

Palliative. A remedy or treatment which relieves, but does not cure.
Papilla, Papillæ. Small, nipple-shaped prominences found on the tongue, the skin, etc.

Paraplegia. Paralysis affecting the upper or lower extremities of the body.
Parasites. Animals which live in the bodies of other animals; as the tape-worm, itch insect, etc.
Parenchyma. The texture of an organ; as the liver, kidneys, etc.
Parotid Glands. These are situated under the ear, just at the angle of the lower jaw, and secrete saliva.
Paroxysms. The periodical attack, fit or aggravation in the course of a disease.
Parturient. Bringing forth or having recently brought forth.
Parturition. Labor; the delivery of the fœtus.
Pastiles. Small medicated lozenges.
Pathognomonic. A *characteristic* symptom of a disease.
Pathology. That part of the Science of Medicine the object of which is the knowledge of disease.
Pedicle. The stalk or narrow part of a tumor by which it is attached and supported.
Pelvic. Belonging to and relating to the pelvis.
Pelvis. The lower part of the abdomen or trunk, composed of bone, containing the genital and urinary organs; supports the backbone and is supported by the legs.
Penis. The male organ of generation. Illus. page 207.
Pepsin. The digestive solvent secreted by the stomach.
Peptic. Pertaining to the stomach.
Percussion. Striking the surface and by the sound produced judging of the condition of the internal organs.
Pericarditis. Described on page 548.
Pericardium. The membranous sac enclosing the heart.
Perineal section. An operation by division of the perineum.
Perineum. The space bounded by the end of the spine, sexual organs and the bony prominences on which one sits.
Periostium. The membranous covering to all bones.
Peristaltic motion. A worm-like movement of the bowels by which the food is moved forward.
Peritoneum. The membrane (serous) which lines the abdominal cavities and surrounds the intestines.
Peritonitis. Inflammation of serous membrane lining abdominal and pelvic cavities.
Pessaries, Pessary. An instrument for holding the womb in its place.
Pestilence. A malignant, spreading disease. A plague.
Phagadenic. That which corrodes or eats away rapidly.
Pharmaceutical. Anything belonging to pharmacy.
Pharynx. The cavity back of the mouth and palate through which the air passes when breathing and the food when swallowing.
Phimosis. Elongated prepuce.
Phlegmonous. Affecting the cellular membrane. The common boil is an example.
Phosphate. A substance containing phosphorus.
Phosphates, earthy. The white deposit in urine composed of phosphoric acid and a base.
Phthisic. Consumption. By some the word is used for Asthma, or difficulty in breathing.
Phthisis. Consumption. See p. 497.
Physiological Anatomy. The branch of medicine that defines the organs of the body and their particular actions.
Physiology. The science which treats of the phenomena and functions of animal life.
Pia Mater. The internal vascular membrane covering the brain.
Pimples on the face. Defined on page 442.
Placenta. Afterbirth.
Plague. A malignant epidemic; begins in Asia Minor.
Plethora, Plethoric. Full of blood, may be general or confined to a part.
Pleura. Defined on page 64.
Pleurodynia. Spasmodic or rheumatic pain in the chest muscles.
Pleuro-pneumonia. Inflammation of both the pleura and lungs.
Pollution (self). Excitement of the sexual organs by the hand or other unnatural method.
Polyp. An acquatic animal, as the coral builders.
Polypi. More than one polypus.
Polypoid. Like a polypus in shape or construction.
Polypus. Tumors which grow from mucous membranes, commonly found in the nasal and vaginal cavities.
Portal vessels. The cluster of veins which join and enter the liver.
Pott's Disease. Described on page 898; illus. pages 898 and 899.
Poultice. A mixture of bread or meal, etc., and hot water, spread on a cloth and applied to the surface.
Pox. Syphilis.
Precocity. Prematurely developed.
Prehension. Carrying food to the mouth.
Prepuce. Foreskin.
Probang. Soft swab.
Probe. An instrument for examining wounds and cavities. A piece of wire with a blunt point is a probe.
Procreation. Production or generation of offspring.
Prognosis. Opinion of the future course of a disease.
Prolapsus. A falling down of an organ through an orifice, as the womb, bowel, etc.
Prophylactic. Preventive.
Proprietary Medicines. Described on page 298.
Prostate Gland. Described on page 776 and illus. on page 207.
Proteids. Foods composed of carbon, hydrogen, oxygen and nitrogen; as the white of an egg.

Protozoon. First life; life in the lowest scale; as sponges.
Proud-flesh. Abnormal growths which arise in wounds or ulcers.
Pruritic. Itching.
Pruritus vulvæ. A nervous disease attended with excessive itching of the external genital parts of the female.
Psoas or Lumbar Abscess. An abscess discharging at the groin.
Psychical. The relation of the soul to animal experiences and being.
Psychological. The spiritual potencies of the soul.
Ptyalin. The ferment of the saliva which converts starch into sugar.
Puberty. The age at which the subject is capable of procreation.
Pubic. Relating to the pubes, a part above the genital organs, covered with hair at puberty.
Puerperal Fever. Child-bed fever.
Pulmonary. Relating to the lungs.
Pupil. The circular opening in the colored curtain within the eye.
Purgatives. Medicines which cause evacuation of the bowels.
Purulent. Discharging pus; as an ulcer.
Pus. A yellowish, inodorous, creamy secretion from inflamed parts; contained in abscesses or discharging from ulcers.
Pustular. Belonging to or affected by pustules.
Pustule. An elevation on the skin, containing pus or "matter," and having an inflamed base.
Putrescence. Decomposition; rottenness.
Putrescent. Decomposing offensively.
Putridity. Corruption.
Pyæmia. Blood-poisoning from the absorption of decomposing pus or "matter."
Pyloric orifice. The lower opening of the stomach; illus. page 39.
Pyriform. Shaped like a pear.

Q

Quickening. The time when the motion of the fœtus within the womb is first perceptible; between the fourth and fifth months of pregnancy.

R

Radical cure. A cure in which the disease is entirely removed, root and branch.
Rales. Noises produced by air passing through mucus in the lungs.
Rectal. Pertaining to the rectum.
Rectum. The lower portion of the intestines terminating in the anus.
Recumbent. Reclining.
Reflex action. See pages 93 and 99.
Regurgitation. The act by which blood is forced backwards in an unnatural manner.
Remission. A temporary diminution of the symptoms of fever.
Reproduction. Producing living bodies similar to the parents.
Resolution. The disappearance of inflammation without suppuration.
Respiration. The function by which the blue blood is converted into red blood in the lungs.
Respirator. Described on page 230.
Retina. Defined on page 107.
Retrocedent. Moving from one part of the body to another; as gout.
Retrocession. Change of an eruption from the surface to the inner parts.
Retroversion. A change in the position of the womb in which the top falls back against the rectum.
Revulsion, Revulsive. Calling the blood away from the diseased part.
Rickets. A disease in children characterized by crookedness of the spine and long bones resulting from scrofula or poor and insufficient food.
Rickety. Affected with rickets.
Rings (Hernial). Circular openings with muscular edges through which a vessel or part passes.
Rubefacients. Medicines which produce redness of the skin.
Rupture. Bursting. Hernia.

S

Saccharine. Like or containing sugar.
Saliva. The secretion of the glands of the mouth.
Salpæ. Little sack-like shaped, soft, fleshy bodies, found in the open ocean, and sometimes phosphorescent.
Sanative. Curative. Tending to restore lost health.
Sanguine Temperament. Described on page 163.
Sanitarium. An institution for the treatment of the sick. A healthy retreat.
Scales. The epidermis or outer part of the skin consists of minute scales. See Fig. 50, page 71.
Scalp. The skin covering the head.
Scapula. Shoulder blade.
Sciatic nerve. The great nerve of the thigh.
Scirrhus. Stony hardness, characteristic of cancer.
Sclerotic coat. The hard, pearly white covering of the eye.
Scorbutic. Producing scurvy, a disease caused by improper or insufficient food.
Scorbutus. Scurvy.
Scrofulous. Suffering from a condition of the system characterized by enlargement of the glands, eruptions, etc., with great susceptibility to contagion.
Scrotum. The bag of skin which covers the testicles.
Scurvy. A disease due to impaired nutrition.
Sea Tangle. A water-plant, which in its dried state is introduced into a canal and dilates the canal as it expands by the absorption of moisture.
Sebaceous Glands. The oil-tubes of the skin. Illus. page 71.

Secretion. The process by which substances are separated from the blood.
Sedatives. Medicines which allay irritation or irritability of the nervous system.
Sedentary. Requiring much sitting.
Self-abuse. Excitement of the sexual organs by the hand or other unnatural method.
Self-pollution. See **Self-abuse.**
Semen. The secretion of the testicles which is thrown out during sexual intercourse and contains the principle of generation.
Semi-fluid. Half fluid.
Semi-lunar Valves. Valves in the heart. See *9* and *17*, Fig. 41, page 58.
Seminal vesicles. Reservoirs for the sperm. See Seminal Sac, on page 207.
Septic. That which corrodes or produces putrefaction.
Septicæmia. Blood-poisoning; usually by absorption.
Sequel. That which follows; the condition or malady which follows a disease.
Serous. Watery. Pertaining to the serous membrane.
Serous Tissue. The membranes lining the closed cavities of the body, which secrete a watery, lubricating fluid.
Shock. Sudden depression of vitality occasioned by injury.
Sitz Bath. See page 367.
Sloughing. The process of separating a mortified part from a healthy part, through the agency of pus.
Smell, Nerves of. Illus. page 111.
Solar Plexus. Described on page 104.
Solvents. Those chemicals which break up or dissolve substances.
Sordes. Foul accumulation on the teeth, noticed in fevers.
Sound. An instrument for exploring cavities or canals for diagnosis or treatment.
Specialty. That to which special attention is given.
Specific gravity. Comparative weight; as between urine and water.
Speculum. An instrument for examining cavities. Illus. pages 717 and 718.
Sperm. See **Semen.**
Spermatic Cord. The mass of arteries, veins, nerves, absorbents and their coverings, which passes along the groin and over the pubic bone, to the testicle.
Spermatorrhea. Described on page 772.
Spermatozoa. More than one Spermatozoon.
Spermatozoon. Defined on page 12; Illus. page 13.
Sphincters. Round muscles which close natural openings.
Sphygmograph. An instrument for examining the heart. Illus. page 548.
Spicula. A small pointed piece of bone.
Spinal Column. The twenty-four bones, which, situated one above the other, form the backbone.
Spinal Cord. Described on page 90.
Spirometer. A gauge of chest capacity. Illus. page 392.
Sponge tent. Compressed, dried sponge previously treated with Gum Arabic, used for dilating the uterine canal.
Sporadic, Sporadically. A term for diseases which appear frequently, independent of epidemic or contagious influences.
Sprain. A straining or rupture of the fibrous parts of a joint.
Staphyloma. Protrusion of the eye, sometimes with loss of sight.
Sterility. Barrenness. Inability to bear children.
Sternum. The breast-bone.
Stethoscope. An instrument for examining the heart and lungs.
Stimulants. Medicines which increase the vital activity of the body.
Stool. Evacuations of the bowels. Dung.
Strabismus. Cross-eyes.
Strangulated. Caught or fastened in the hernial canal.
Striated. Grooved or striped.
Stricture. A contracted condition of a canal or passage; of the food-pipe, rectum, urethra, etc.
Structural. Belonging to the arrangements of tissues or organs.
Strumous. Scrofulous.
Stupor. Great diminution of sensibility.
Stye. A little boil on the eyelid.
Styptic. An external astringent wash.
Sub-acute. A moderate form of acute.
Sudoriferous Glands. Minute organs in the skin, which secrete the perspiration. Illus. page 70.
Supporters (Uterine). Instruments intended to hold the womb in its natural position.
Suppression. Stoppage or obstruction of discharges; as urine, menses, etc.
Suppuration. A gathering. Formation of pus, as in an abscess or ulcer.
Suture pins. Pins or needles, which are passed through the edges of wounds to bring them together. Thread is then wound around the pin to hold the edges in place.
Sutures. The ragged edges of bones by which they are joined to each other. Stitches of thread to bring the edges of a wound together for their union.
Sympathetic Nerve. Defined on page 101.
Symptom. A change in the body or in its functions which indicates disease.
Symptomatic. Pertaining to symptoms.
Synovial Membrane. The lining of a joint, which from its oily secretion allows the bones to move freely upon each other.
Synovitis. Described on page 452.

T

Tapping. Removing collected fluid by introducing a hollow tube through the flesh.
Temperament. Peculiarities of the constitution manifested by traits which we denominate character.

Tenesmus. Straining at stool.
Teut. A compressed, dried cylinder of sponge, previously treated with Gum Arabic, which enlarges the canal in which it is placed by expansion from the absorption of moisture.
Testicles. Described on page 773; Illus. page 207.
Thermometer. An instrument for determining temperature.
Thoracic Duct. A canal which carries the chyle from its repository in the abdomen to the large vein in the chest, near the heart.
Thorax. Chest.
Tinctures. Medicines held in solution by alcohol.
Tonic. Defined on page 350.
Topical. Local.
Topography. Description in detail of a place; in hygiene, to determine its adaptability to residence.
Tormina. Griping of the bowels.
Torticollis. Stiffness or contraction of the muscles of the neck. Wryneck.
Tourniquet. An instrument to stop bleeding. Illus. Fig. 252, page 890.
Trachea. Windpipe. See page 63.
Translucent. Transmitting light, but not permitting objects to be seen distinctly.
Transudation. Passage of liquid through the tissues of the body.
Traumatic. Relating to a wound or injury.
Trephining. Removing a piece of bone by a cylindrical saw.
Triturate. To pulverize.
Trocar. An instrument for removing fluids from cavities. It consists of a perforator within a cylinder.
Truncated. Shaped like a pyramid with its top cut off.
Truss. A mechanical appliance for preventing protrusion or strangulation. Hernial support.
Tubercle. See pages 431 and 498.
Turn of life. The change of life when menstruation ceases.
Tympanum. Ear-drum. Illus. p. 109.

U

Umbilical. Of the navel; as umbilical hernia. Illus. page 863.
Umbilical Cord. A cord-like substance which conveys the blood to the fœtus from the placenta or afterbirth.
Umbilicus. The Navel.
Unstriated. Not grooved or striped.
Uræmic. Pertaining to blood-poisoning from the presence of urea in the circulation.
Urates. The pinkish deposit found in urine.
Urea. A constituent of the urine.
Ureters. The canals leading from the kidneys to the bladder. Illus. pages 85 and 207.
Urethra. The canal leading from the bladder outwards, by which the urine is voided. Illus. page 207.
Urethrotomy. The operation for opening the urethra for the removal of stricture.
Uric Acid. A constituent of the urine.
Urinary Fistula. Abnormal communication between the urinary passages and the surface.
Urino-genital organs. Pertaining to the urinary and sexual organs.
Uterine. Belonging or relating to the womb.
Uterine Cavity or Canal. From the month of the womb to a constriction called the internal orifice, is a cylindrical space called the canal. Above this to the fundus or base is a triangular and flat space called the cavity.

V

Vagina. A canal, five or six inches long, situated between the vulva and womb.
Vaginal. Pertaining to the vagina.
Vaginismus. Irritable vagina.
Valves of the Heart. See page 58.
Varicocele. Described on page 803.
Varicose. Veins that are twisted or dilated.
Vascular. Belonging or relating to vessels.
Vascular System. The heart and blood-vessels.
Veins. The vessels which return the blue blood to the heart.
Venereal. Syphilitic.
Ventricles. Chambers in the heart. See *5* and *14*, Fig. 41, page 58.
Vermifuge. A medicine which destroys or expels worms.
Version. Displacement of the womb forwards or backwards.
Vertebræ. The twenty-four bones which joined together form the backbone.
Vertebrates. Animals having the jointed skeleton within; distinguishes between these and insects, worms, oysters, jelly fish, etc.
Vertigo. Dizziness or swimming of the head.
Vesicles. Small bladders or sacs. Pimples.
Vesicular. Belonging to or containing cells.
Villi. Minute thread-like projections.
Virile power. Masculine vigor. Sexual vigor.
Virus. Poison. The agent which transmits infectious disease.
Viscera. (Plural of Viscus.) More than one internal organ.
Viscous. Sticky. Tenacious.
Viscus. Any internal organ.
Vitreous Humor. The fluid in the eye behind the lens. Illus. page 107.
Volitive Temperament. See page 171.
Vulva. The external organs of generation in the female, or the opening between these projecting parts.

W

Walls. The sides of an enclosure, as the walls of the vagina, which to some extent support the womb.
Whites. Described on page 702.

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Who Sometimes Infest the Cars and Depots in and Near this City.

We warn all those who contemplate visiting us, that we have the most *positive proofs* that a gang of confidence men have at different times made it their business to watch for sick and infirm people on the way to our institutions, and divert them into the hands of "sharpers," confidence men and swindlers. These men have watched for the coming of invalids on the cars, in and around the depots, in the offices of the hotels located near the depots, and if inquiry was made for our institutions, or if the object of the visit to the city was made known or suspected from the invalid appearance of the traveler, they at once commenced weaving their skillfully-wrought web to catch a victim.

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"A Word to the Wise,"

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SHOWING LOCATION OF RAILROAD DEPOTS AND THE
INVALIDS' HOTEL, 663 MAIN STREET.
(Between Chippewa and Tupper Streets.)
The black dotted line - - - - - - - represents the Street Railroad over which motor-cars run up Exchange Street past the Depots, to Main Street, and thence up Main past the INVALIDS' HOTEL.
Trains of the Canada Southern Railroad use the Central Depot. Don't get off at the Terrace Depot. It is only a local station.
The Grand Trunk and Great Western Railroads use both the Central and Erie Depots. The Grand Trunk also runs a part of its Passenger Cars to its Depot on Erie Street.
INVALID'S HOTEL
MAIN STREET
TUPPER
PEARL
FRANKLIN
DELAWARE
WASHINGTON
CHIPPEWA
HURON
MOHAWK
NIAGARA
GENESEE
PARK
CLINTON
ELLICOTT
EAGLE
NORTH
DIVISION
SOUTH
SWAN
MICHIGAN
CHICAGO
COURT
SQUARE
CHURCH
CITY HALL
ERIE
RAILROAD
POST OFFICE
SENECA
WELLS
EXCHANGE
CENTRAL DEPOT
HAMBURGH
LEHIGH VAL. DEPOT
SCOTT
PERRY
CANAL
PROPOSED LEHIGH VALLEY
TERRACE DEPOT
G'D TR. DEPOT
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